DECEMBER
1957

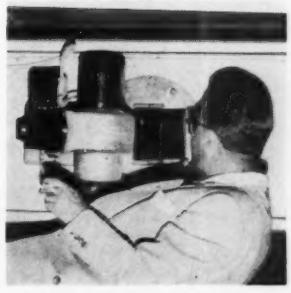
fueloil & oil heat

UNIVERSITY OF MICHIGAN
BEST ENGINEERING LIBRARY

35 Years devoted to Progress in Oilheating and Airconditioning

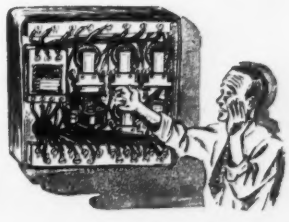
Quality Builders use oil Heat

Making Oilheating even more acceptable complements good builder Merchandising 41



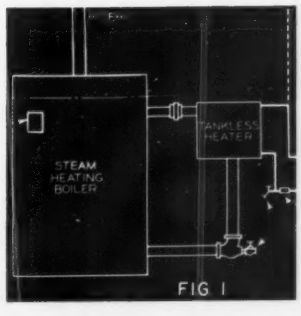
Sparky on cooling Controls

"Volts and Amps mean more in Cooling than in Heating," says best Serviceman 43



Installing tankless Heaters

Internal and external water Heaters in steam and water Boilers and their Control 52



Panels on Fueloil, jobber Problems featured by ESPA at Lake Placid 59

Make your full margin of profit on fuel oil deliveries with BRODIE TANK TRUCK METERS

- Keep exact delivery and inventory records with the sustained accuracy of the exclusive *BiRotor* measuring element
- Eliminate delivery error losses with automatic *Quantrol* shutoff
- Speed up accounting with error-proof printed receipts
- Keep trucks in full-time operation with trouble-free *BiRotor* performance
- Cut operating costs to the bone with Brodie proved low maintenance

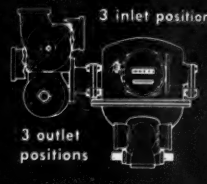
Brodie *BiRotor* Tank Truck Meters are designed to make tank trucks and man hours more productive. Their sustained accuracy and low maintenance are a matter of record. Compactness and flexibility permit the most efficient piping and cabinet layout. There's a *BiRotor* in the exact capacity and equipped to meet your particular needs. Ask your Brodie Metering Specialist for details.

714

Model B-41C with Strainer-Air Eliminator and *Brodimatic* Printing *Quantrol*.

Flexibility of installation assures ideal cabinet arrangement with simplest piping, full accessibility

- STRAINER-AIR ELIMINATOR INSTALLED AT LEFT



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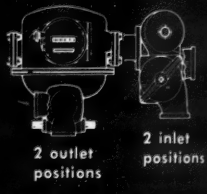

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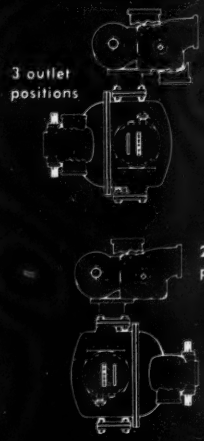

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DECEMBER fueloil & oilheat 1957

VOLUME 16 NUMBER 12

Editorial, circulation and advertising Office: 2 West 45th St., New York 36, N. Y.

CONTENTS

SUBJECT	PAGE	AUTHOR
Quality Builders use oil Heat	41	WILLIAM J. STEIN
Sparky services cooling Controls	43	J. W. SCHULZ
Baltimore tells it to (Mrs.) Sweeney	46	
Keep 'Em on Contract	48	
The Home is where the Heart is	49	
Oilheating in the largest Market	50	
Installing tankless Heaters	52	H. E. PHIPPS
Manufacturers, wake up	55	LIONEL L. JACOBS
Survey of Burner-Fueloils	56	
Oilheating in Lewistown	58	
Panel on Fueloil featured at ESPA *Meeting*	59	

COMMERCIAL - INDUSTRIAL SECTION

Locations for oil Heaters	66	JEAN L. DUPUIS

NEWS

Blickensderfer, Chairman of API Committee 26

Booths filling for OHI Show 30

Dodge predicts building 1958 Increase 30

Better Heating-Cooling Council elects White 34

Small business Loans show increase 37

Bendix heads Old Timers 38

OHI Board to meet in Milwaukee 38

DEPARTMENTS

6 Editorial Leaks

8 Fueloil Prices, Degree-Days

10 Oilheating Trends

18 Government on Fuels

20 Names in the News

81 Industry Groups

90 New Products

98 Manufacturers' Activities

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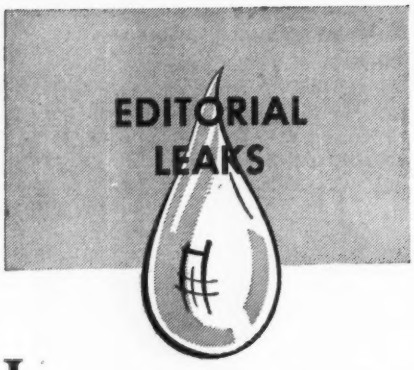
Among other things . . .

Bill Stein contributes this month a summarization of the impressions he gained from studying the way eleven key oilheating dealers handle sales to builders. The series, which has been running periodically for more than a year, had a lot of meat and is ably wrapped up in the feature beginning on page 81.

And, next, Sparky is back. He's still the "World's best Serviceman," but he proves he knows something about cooling, in addition to oilheating. In fact, that's what he's talking about. Start on pgae 43 and you'll find out why Sparky says, "Volts and Amps mean more in cooling than in heating."

There's an interesting program underway in Lewistown, Pa., sparked by the findings of Homer L. Horton who made a survey of 100 oilburner installations to get material for a college thesis. It demonstrates how positive action can be taken effectively to improve conditions. Read about it on page 58.



IT WOULD BE HARD to find in American industry any practice more grossly unfair than that of the utilities in selling gas to industry in summer months at dump rates just so they can take away more of oil's home heating business in the winter.

The subject is just now boiling up in the New York market, although it has been common in other areas for years.

In the days when distillate fueloils were of only mild interest to the refiners that made them, it is understandable that they gave little heed to this pernicious practice of the gas industry. But today, with surplus conditions all through the oil markets, distillate is a major profit product . . . most refiners will say it's their most profitable item that's sold in any volume.

So "interruptible" gas contracts take on new meaning and they should definitely be stopped. Maybe it's impossible but let's think about it.

In case you don't know, here's how they work out: a gas utility cannot take on a big load of home heating unless it can get a balancing summer load from industry to keep its pipeline purchases balanced. To do this it offers a very low rate, for summer only, to potential large users who have been buying residual fueloil. Currently, they are offering to sell gas as low as 47¢ per Mcf to large users around New York, which is lower than residual oil's equivalent.

But the industrial buyer and the gas company expect the naive oil man to stand around smiling with hat in hand and oil in terminals ready to rush to his supply when cold weather comes and the gas has to be shut off so it can move into homes to take away his winter sales of profitable No. 2 oil.

It's incredible that any industry as enormous and powerful as petroleum is not able to control its own actions any better than to fall for this sucker game. The excuse is always that "if we don't do it some other company will."

Here's a possibility . . . let's think about fighting fire with fire. We, too, have surplus residual oil in the summer. Why don't we as industry strategy just develop the habit of selling it cheaper in summer months. It would be the simplest form of "supply and demand regulating price." Then in the winter when there is a real demand and gas can't supply it—let nature take its course and residual prices stiffen up.

A drop of 15¢ per barrel at New York harbor today would either stop interruptible gas deals or force them to go lower, which in the long run would be intolerable for them.

The coal industry has long been stirred up about the summer "dump rate" deals. It's not for the same reason as ours. They just object to losing tonnage at any time of year.

At an October convention in Texas the coal state congressmen offered in effect to support the Harris Bill to free gas from government control . . . if the gas industry would stop these cheap interruptible deals. The gas industry spokesmen said that that would be impossible, because then they would have to charge more for gas to heat homes.

Brother! . . . Round and round she goes, but it's hard to be a gentleman. As famous Gene Flack so aptly stated, "Illegitimata non carborundum."

OUR INDUSTRY has been a little slow this year, down about one-eighth from last year. If all other businesses were pointing up, we'd have more to worry about. The fact is that a general attitude of caution is hurting us more than the decline of new homes.

An item in the *New York Times* the other day pointed up what we mean better than a lot of economic hocus-pocus. It said that the sale of men's clothing in September was down 13% from last year—or just the same as we were.

AND NOW THAT we're in the newspaper clipping department reminds us that a reader sent in an item from the *Nashville Tennessean* of October 13. A local oil man down in Lexington had a frantic call from the engineer of an L&N freight train late one night.

His diesel engine had run out of oil four miles north of town. A light tank truck with 500 gallons cut across the fields and "gassed her up" with No. 2.

BILL O'NEILL of Iron Fireman sent the editor a handkerchief, but not an ordinary one. This one when folded just right fits into your chest pocket and shows embroidered letters, "Business is good." Wearing it at a reception just preceding the Oil Progress luncheon at the Waldorf, it got some grins, which is the idea.

Bill's sales force wins these optimistic kerchiefs in some way, and it's a fair bet that they will lighten many an otherwise heavy sales presentation.

THESE BULLETINS or reports from the consumer testing bureaus—call them what you like, they're on the news stands—have been having a Roman holiday over the fuels this fall.

They've taken them all apart and showed the long-suffering public how they've been bilked by the nefarious fuel marketers. The only satisfaction we might take from the blasts is that they treated us a little more kindly than they did gas. In general they seemed to like coal best.

We have never had much confidence in these ventures. It seems that whenever they touch on products or industries that we know something about, they know mighty little about them.

Their whole philosophy is that you can't trust the advertiser, can't believe the salesman. They'll take the hokum out of distribution.

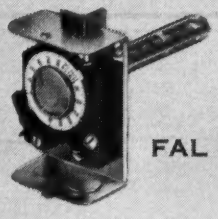
The great big difference between American living standards and the rest of the world is sales promotion that creates desires for products to be built in volume at prices we can afford. It's as simple as that.

Bob Gray

the Robertshaw single element Fan and Limit 40D adds to service-free furnace life

ONE element, not two! Greater mass of bimetal in a single helical element lasts longer!

. . . and cuts application costs!



FAL 40D

BASICALLY—a single element operates better than two because it has fewer "things to go wrong."

The ROBERTSHAW *single element* Fan and Limit 40D is sturdier, simpler . . . provides a surer, more positive fan and limit switching action . . . has more "things to go right!" Cuts costly service calls!

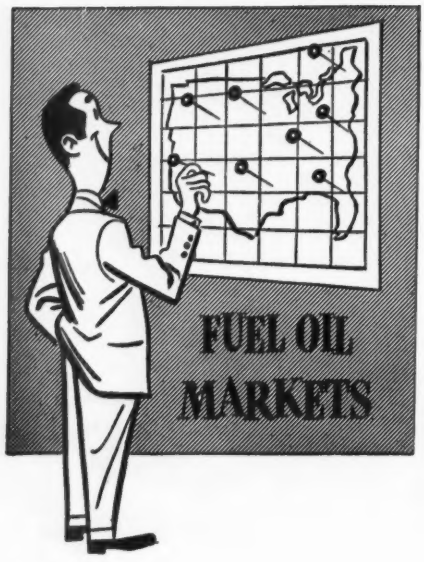
In addition, the FAL 40D is easier, quicker, more economical to apply . . . may be mounted in any position, needs no leveling . . . requires only 3 metal screws (supplied).

"Fan-On" contact is made prior to "limit switch cutout" . . . adds to furnace life!

For dependability and economy's sake, always specify Robertshaw controls.

Robertshaw-Fulton CONTROLS COMPANY

GRAYSON CONTROLS DIVISION, LONG BEACH, CALIFORNIA



No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of November 15, 1957

	Tank Car	Tank Wagon		Tank Car	Tank Wagon
Portland, Me.	11.2(A)	14.5	Richmond	11.4(A)	14.5
Boston	11.1(A)	14.8	Charleston, S. C.	11.0(A)	13.7
Providence	11.1(A)	14.5	Chicago	11.0*(B)	14.6
Springfield, Mass.	12.2(A)	15.3	Detroit	12.25*	16.2
Hartford	11.4(A)	14.7	Cleveland	12.3*(C)	15.3
New Haven	11.0(A)	14.5	Minneapolis	10.25	15.3
Syracuse	12.0(A)	15.5	St. Louis	11.5*(A)	14.9
Albany	11.2(A)	14.6	Indianapolis	11.05*	15.6
New York	11.0(A)	14.7	Milwaukee	12.35*	15.5
Newark	11.0(A)	14.3	Des Moines	10.5	14.4
Philadelphia	11.0(A)	14.3	San Francisco	11.75*	14.5
Harrisburg	11.1(A)	14.7	Portland, Ore.	12.45*	15.2
Baltimore	11.0(A)	14.5	Seattle	12.55*	15.3
Wilmington, N. C.	11.0(A)	14.1	Spokane	14.45*	17.2
Washington	11.0(A)	14.8	Los Angeles	11.25*	14.0

*Delivered.
Tank wagon prices shown are for maximum one-time delivery discounts.
(A) Price subject to vol. allowance of .50¢ gal.
(B) Price subject to vol. allowance of 1.0¢ gal.
(C) Price subject to vol. allowance of .45¢ gal.

DEGREE DAY TABLE

ONE MONTH ONLY					SEASON TO DATE			
	October		Percent		Sept. through Oct.			Percent
Normal	1956	1957	Change*		Normal	1956	1957	Change*
443	464	450	+ 1.6	Albany AP	582	726	572	— 1.7
110	49	207	+ 88.2	Atlanta AP	118	53	243	+105.9
278	128†	233†	— 16.2	Baltimore AP	328	326‡	266‡	— 18.9
315	330	317	+ 0.6	Boston AP	392	504	374	— 4.6
433	300	456	+ 5.3	Buffalo AP	555	518	596	+ 7.4
147	87	229	+ 55.8	Charlotte, N. C. AP	154	133	266	+ 72.7
350	153	397	+ 13.4	Chicago AP	440	239	486	+ 10.5
222	131	292	+ 31.5	Cincinnati CO	264	181	333	+ 26.1
340	198	402	+ 18.2	Cleveland AP	415	357	499	+ 20.2
53	14	127	+139.6	Dallas AP	53	14	127	+139.6
425	277	420	— 1.2	Denver AP	545	343	561	+ 2.9
355	162	449	+ 26.5	Des Moines AP	454	265	562	+ 23.8
381	240	432	+ 13.4	Detroit AP	477	412	562	+ 17.8
394	289‡	511‡	+ 29.7	Grand Rapids CO	499	486‡	707‡	+ 41.7
384	423	421	+ 9.6	Hartford AP	485	666	543	+ 12.0
617	608	738	+ 19.6	Helena AP	937	824	1001	+ 6.8
7	0	71	+914.2	Houston AP	7	0	71	+914.2
306	143	415	+ 35.6	Indianapolis AP	385	247	505	+ 31.2
240	63	302	+ 25.8	Kansas City AP	284	80	331	+ 16.5
41	34	16	— 61.0	Los Angeles CO	58	34	16	— 72.4
232	131	316	+ 36.2	Louisville AP	283	194	338	+ 19.4
428	287	503	+ 17.5	Milwaukee AP	562	475	696	+ 23.8
459	271	500	+ 8.9	Minneapolis AP	616	473	684	+ 11.0
5	0	63	+1160.0	New Orleans CO	5	0	69	+1280.0
263	216	268	+ 1.9	New York CO	302	318	315	+ 4.3
331	161	404	+ 22.0	Omaha AP	419	239	495	+ 18.1
219	177	256	+ 16.9	Philadelphia CO	252	250	400‡	+ 58.7
298	183	394	+ 32.2	Pittsburgh CO	354	310	458	+ 29.4
515	519	468	— 9.1	Portland, Me. AP	714	826	663	— 7.1
280	346	295	+ 5.4	Portland, Ore. CO	365	410	305	— 16.4
381	394	368	— 3.4	Providence AP	488	588	461	— 5.5
233	202	349	+ 49.8	Roanoke, Va. AP	283	288	419	+ 48.1
202	68	281	+ 39.1	St. Louis CO	240	85	298	+ 24.2
381	399	401	+ 5.2	Salt Lake City AP	469	457	502	+ 7.0
128	169	81	— 36.7	San Francisco CO	238	260	137	— 42.4
639	490	590	— 7.7	Sault Ste. Marie AP	937	913	908	— 3.1
329	379	337	+ 2.4	Seattle CO	463	526	367	— 20.7
387	256	471	+ 21.7	Toledo AP	489	446	616	+ 26.0
237	188	292	+ 23.2	Washington AP	274	276	332	+ 21.2

*Compared with normal. †City Office. ‡Airport Office.

By THE MIDDLE of November, the heating oil market seemed quite settled so far as market postings were concerned. Naturally, there were some spot deals for large buyers that were more favorable than the postings, but this will always be true in a period of unseasonally high stock levels.

The table of primary stocks shows them 7% higher than last year, although they would be up more than that were it not that the Midwest shows a small decline.

The price table changes were only in the Midwest, specifically at Cleveland and St. Louis where there was a modification of the voluntary allowances.

It is interesting to take a longer look at the price picture comparing present levels with a year ago. For the average Eastern market we report the price dropped from 14.8¢ to 14.6¢. In the Midwest it rose from 14.7¢ to 15.2¢. On the Pacific Coast, it is up from 14¢ a year ago to 15.2¢ now.

It is significant that the Pacific market is that firm in a year that natural gas makes its entrance.

The year has started off colder than last season and colder than normal. This was not true of every market as the table shows, but that is the general effect. Naturally in the fall months, the weather seems warm to the individual on the streets so that it is rather hard to realize that this has been a better fueloil season thus far.

The general attitude of some strong industry men is that there is nothing much wrong with the fueloil business that a good cold winter can't cure.

It was interesting at the API convention at Chicago to observe how much notice is being given to heating oil by top industry men among the majors. Our price situation in the face of surplus inventories has been decidedly better than that of gasoline.

Distillate Fueloils

PRIMARY STOCKS*
(Thousands of Barrels)
East of Rockies

	Nov. 8 1957	Nov. 9 1956
East Coast	71,274	66,255
Midwest	48,560	49,439
Gulf Coast	33,819	28,510
Total	153,653	144,204

*American Petroleum Institute.

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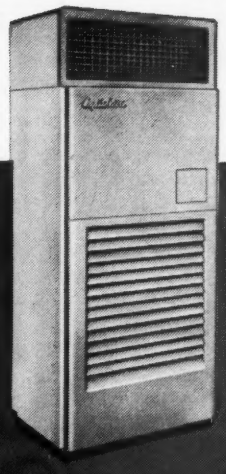
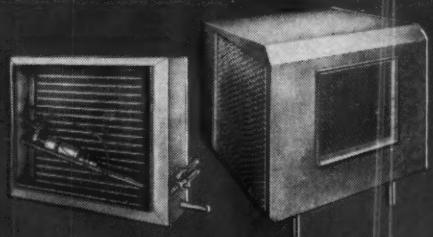
The complete line of

- Residential
- Commercial
- Industrial

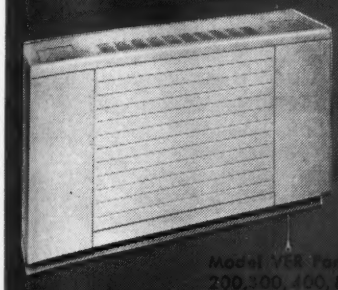
Air Conditioning Products



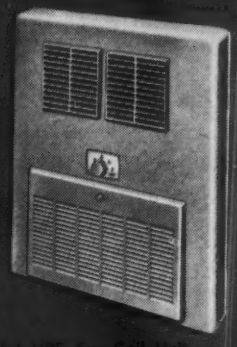
Model COM Commercial Air Conditioner 3 & 5 ton—Water & Air Cooled



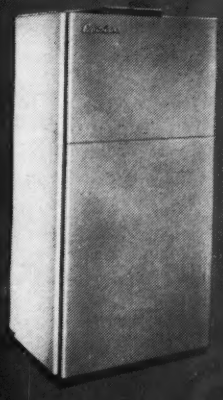
Model CF Flat Coil with Remote Air-Cooled Condensing Unit



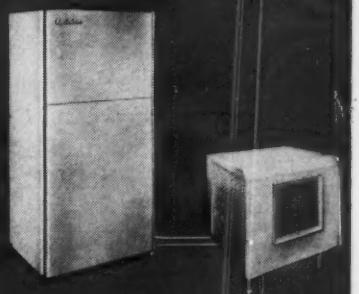
Model VER Fan-Coil Units 200, 300, 400, & 600 CFM



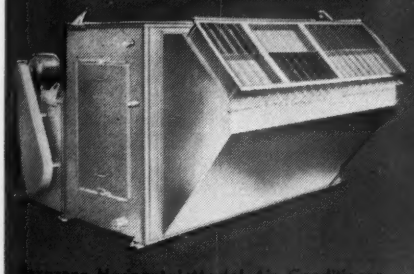
Model VRS Fan-Coil Unit Summer Cooling—Winter Heating



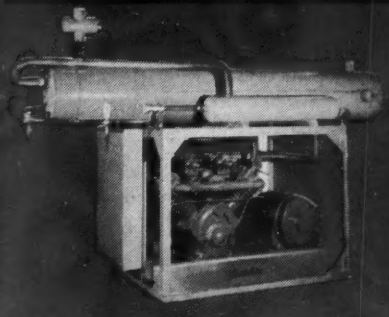
Model RES Residential Air Conditioner Air Cooled —3 & 5 ton



Model RES Residential Air Conditioner 3 & 5 ton Water Cooled



Sixzone Horizontal Model Air Conditioner for multi-room applications. CFM capacities from 1800 to 24,000. Vertical model available



Model CWG Water Chiller 7½ thru 75 tons

Model ABCR Air Conditioner with Built-in Evaporative Condenser 7½ thru 60 tons. Also available as water cooled

Send to Marketing & Promotional Department for free bulletin on air conditioning equipment which interests you.

National-U.S. Radiator CORPORATION

A-2

HEATING AND AIR CONDITIONING DIVISION
Johnstown, Pennsylvania

Oilheating Trends

OCTOBER saw estimated installations of approximately 89,940 domestic oilburners and units which compares with 102,645 in the same month a year ago for a drop of 12%. The sales were divided: New Homes, 21,856; Replacements of old oilheating equipment, 18,048; Conversions from other fuels, 50,036.

This last figure seems particularly strong in view of the fact that the conversion market is generally declining, but a review of our work on this analysis fails to uncover anything that would change it.

For the year to date total installations were approximately 529,168 compared with 610,103 last year showing a drop of 13.3%. We have finally been able to bring this closer in line with factory shipments which were off 13.7% for the month of August.

The ten month total by types of applications shows New Homes, 172,618 compared with 209,113 in the same period last year. This is a drop of 17% or about the same as the decline in home building. Replacements of old oilheating were 126,078 compared with 118,658 last year. Conversions from other fuels show 230,472 as against 282,332 in the same ten months of 1956.

Burner Stocks: Dealers are playing it very close on inventory with burner and unit stocks at the end of October only 61,908 compared with 88,689 the previous month and with 102,645 a year ago.

In other words the dealers got hit rather hard in the fourth quarter last year, and are taking no chances now.

The dealer stocks on October 31 were divided: separate burners, 28,649; boiler-burner units, 14,753; furnace-burners, 18,506.

Factory stocks at the end of August were 63,625 domestic burners and units compared with 66,185 a year ago.

Tank Stocks: At the end of October, dealers had on hand only 29,769 customer tanks compared with 41,528 a month earlier, and with 56,637 a year earlier.

Minimum Retail Prices of Key Dealers

	Oct. Avg.	*Sept. Avg.*
Separate Burners	$316	$316
Boiler-Burners	727	729
Furnace-Burners	600	606

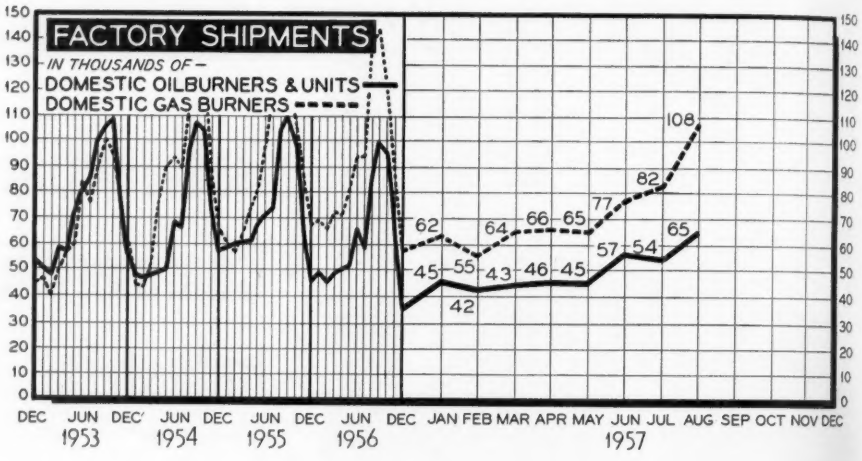
Price Index: Separate Burners 1947-49 is 100%

WHOLESALE

October	96.6	Six months ago	95.0
September	95.6	Year ago	94.5

RETAIL

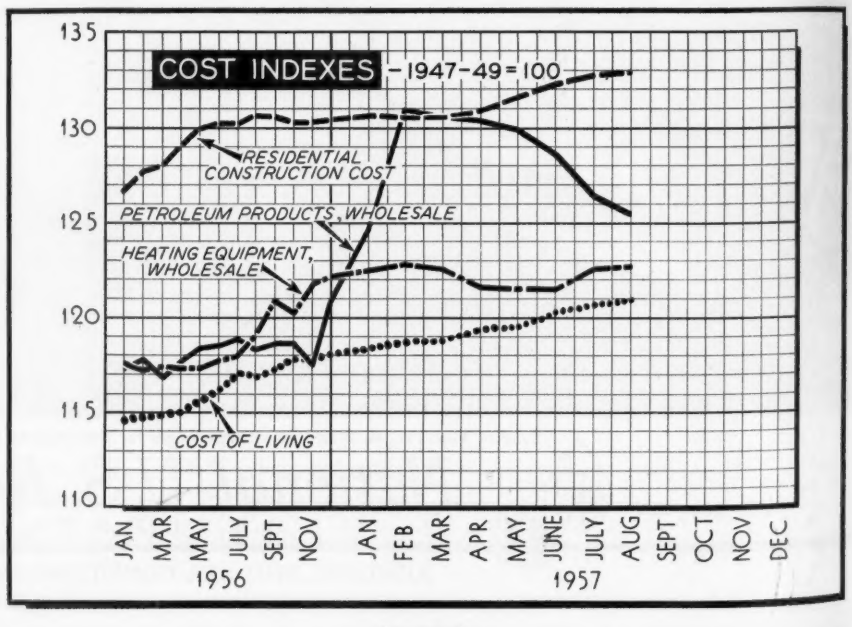
October	93.0	Six months ago	93.2
September	92.9	Year ago	92.8



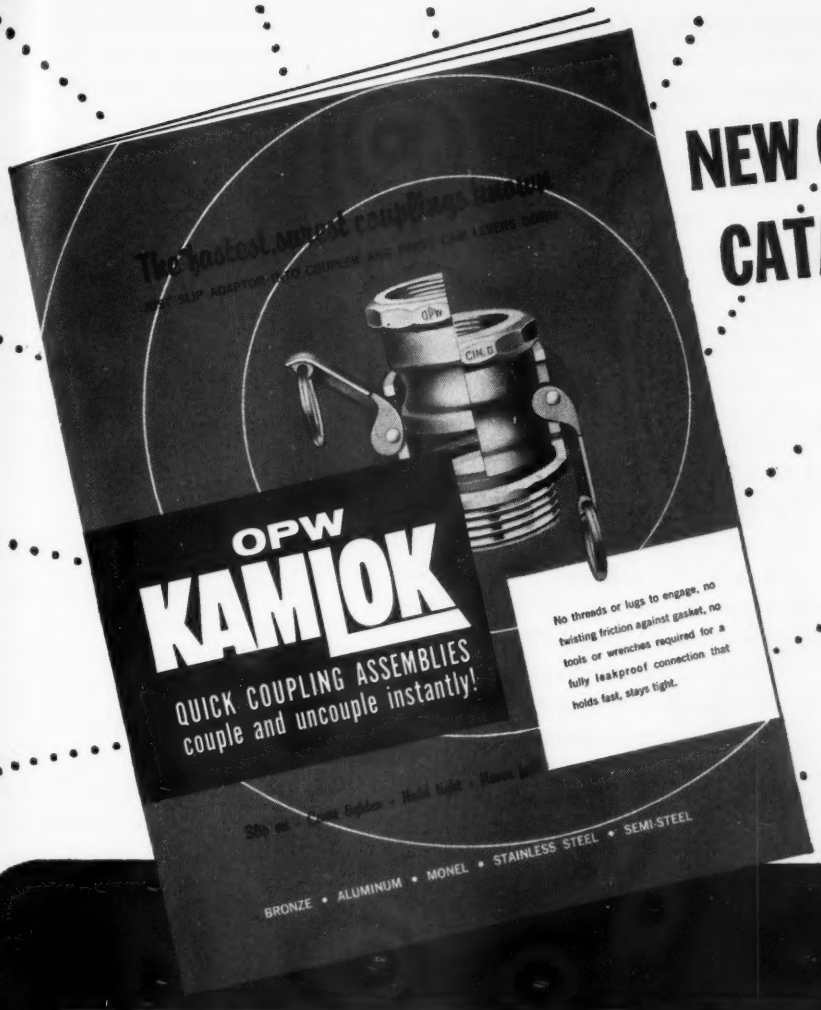
Shipments of Oilburners and Units
(Including Exports)

Adjusted to include manufacturers other than those reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	AUGUST			EIGHT MONTHS		
	1957	*1956*	*Percent Change*	*1957*	*1956*	*Percent Change*
Separate Burners	42,515	53,064	—19.9	262,873	291,336	— 9.8
Boiler Units	5,332	6,417	—16.9	37,926	39,480	— 3.9
Furnace Units	17,002	26,032	—34.7	89,437	121,226	—26.2
All Domestic	64,849	85,513	—24.2	390,236	452,042	—13.7
Commercial	4,209	4,253	— 0.1	28,043	26,181	+ 7.1
Total	69,058	89,766	—23.1	418,279	478,223	—12.5


COST INDEXES – 1947-49 = 100
RESIDENTIAL CONSTRUCTION COST
PETROLEUM PRODUCTS, WHOLESALE
HEATING EQUIPMENT, WHOLESALE
COST OF LIVING
JAN MAR MAY JULY SEPT NOV JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC
1956
1957

NEW QUICK REFERENCE CATALOG F-10R FREE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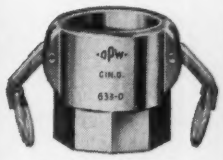
KAMLOK
QUICK COUPLING ASSEMBLIES
couple and uncouple instantly!
No threads or lugs to engage, no twisting friction against gasket, no tools or wrenches required for a fully leakproof connection that holds fast, stays tight.
BRONZE • ALUMINUM • MONEL • STAINLESS STEEL • SEMI-STEEL

No. 633-A ADAPTOR

No. 633-B COUPLER

No. 633-F ADAPTOR


No. 633-D COUPLER

No. 634-A DUST PLUG

OPW KAMLOK

QUICK COUPLING ASSEMBLIES for hose and pipe

The Fastest, Safest, Surest Coupling Known!

No. 634-B DUST CAP

You'll want to keep this excellent, practical working Catalog close at hand. Lots of illustrations clearly show the complete interchangeability of master gauged OPW KAMLOKS. Detailed recommendation and sizing charts, typical specials for unique applications and factual information will help you in planning, selection and determining installation.

Just write us on your letterhead and it's yours!

Your fluids handling may well be improved with OPW KAMLOKS.

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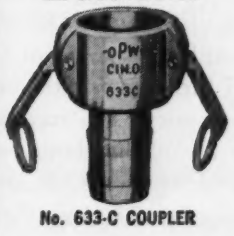
No. 633-C COUPLER

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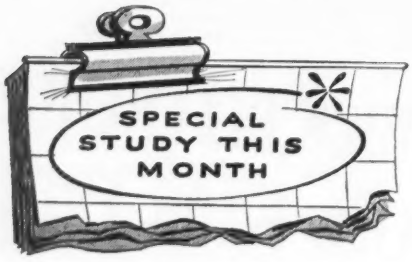


Capital for the Dealer to grow on---

FUELOIL distributors as well as oil marketers in general have had a lot to say about their less favorable position in the capital market compared with the major companies that can always sell new stocks through the exchanges. This subject was particularly emphasized at the Empire State Convention at Lake Placid in October.

Fueloil companies have been growing fast for many years, and capital for expansion has been an endless problem. The study this month brings out some of the interesting facets of the dilemma.

First we asked fueloil men if during the past three years they have been able to finance their expansion through profits or by enlisting outside capital. The answer is that 76% grew from profits and 24% got outside money.

Among those who got outside capital during the three years, 17% got it from their oil supplier, 5% from business friends; 58% from long term bank loans, and 5% from insurance companies. It is significant that not one of the fueloil distributors sold stock to the general public or got a government loan. The final 15% of the companies raised money in other ways typically by officers lending money to the company, a private stock sale to an outside individual, or long term real estate loan.

Next we asked the group how much they had increased their capital and surplus in the last three years. The composite answer was 25%, although some ran as high as 100%.

Capital turnover was the object of the next question. The average of all reporting fueloil distributors was 8.8 times. In other words, their annual gross sales were 8.8 times their combined capital and surplus. The range here was from a low point of three times to a high point of 36 times.

A study of this nature reminds us again that it isn't safe to generalize in the fueloil industry because individual company experiences vary so widely.

Next we asked the group what portion of their net profit after taxes they normally leave in the business for growth capital. The composite answer was exactly 50%, although some left it all in for capital, quite a few in fact. As would be expected there were notable sectional differences on this point. The New England marketer leaves in 73% of his profits in the business; the Mid-Atlantic company, 52%; the Midwestern operator, 32%; and the Pacific Coast oil man, 56%.

Some companies deliberately hold down their growth in a strong year in order to preserve enough capital to stay out of trouble. Surprisingly, on this point two out of five companies say that they don't try to grow as fast as they could because of capital limitations.

Credit Handling

Intelligent managers know that they can do considerable growing without much additional capital just by very close handling of credits and short term bank loans. In fact, the reporting group tells us that its average member can increase his business 14% a year without having to look for outside capital.

The fact that the group as a whole has actually increased its dollar sales by only 22% in the last three years would indicate it still had some leaway within its own financing possibilities. This is also borne out by the fact that in the three years while sales grew 22% we saw that capital and surplus increased 25%.

Bankers as a whole think well of the fueloil industry. The oil men report, or rather 62% of them say that their bankers like the fueloil distribution business, 21% say that their bankers are acting quite hesitant, the final 17% find their bankers afraid of the future of the fueloil business. These attitudes naturally are influenced by what the bankers can see happening in their communities. New England and the Pacific Coast have the strongest appreciation by the bankers with the Mid-Atlantic and Midwest sections a little weaker.

It is especially noticeable that bankers have a higher opinion of the fueloil business in several of the markets that have cooperative advertising campaigns for oil heat. This is understandable because they see the industry as being alert to its problems and opportunities. Oddly enough, we had never thought of this particular advantage in the oilheating campaigns which are now running in quite a few markets.

Dealers comment on Capital

Typical viewpoints on this month's questions are these:

"Because of high accounts receivable at season's end, my bank has granted our requests, they have loaned us our requirements on a staggered basis; this is all right with us because it has cut down on interest payments." . . . "Bankers feel that dealers have been far too liberal with credit, that we have to reduce our accounts receivable before they extend new capital which most of us need." . . .

"If we continue a 3-5% steady growth per year there seems to be no way of personally enjoying the fruits of our labor; the bulk of our profits must be plowed back—laws governing depreciation of equipment are very unfair, replacing two pieces of equipment each year at 60-70% higher costs dents the profit picture quite effectively." . . .

"Banker sees nothing but gas in the future." . . . "My chief supplier allows me up to 35 days to pay for my oil purchases and still take the very important 1% cash discount; during the heavy oil months this is the same as lending me thirty to forty thousand dollars interest free. I do not abuse this credit extension and my statement does warrant the total credit allowed, consequently, I do not have to borrow from the banks at any time. During the month of January 1956, our oil purchases exceeded $65,000—had we been purchasing oil from a major company with their 10 day, 1% rule we would have been forced to borrow or lose the 1%, either way would have cost us several hundred dollars." . . .

RX *MIXED-FLOW BLOWER UNIT: A TORRINGTON 1st*

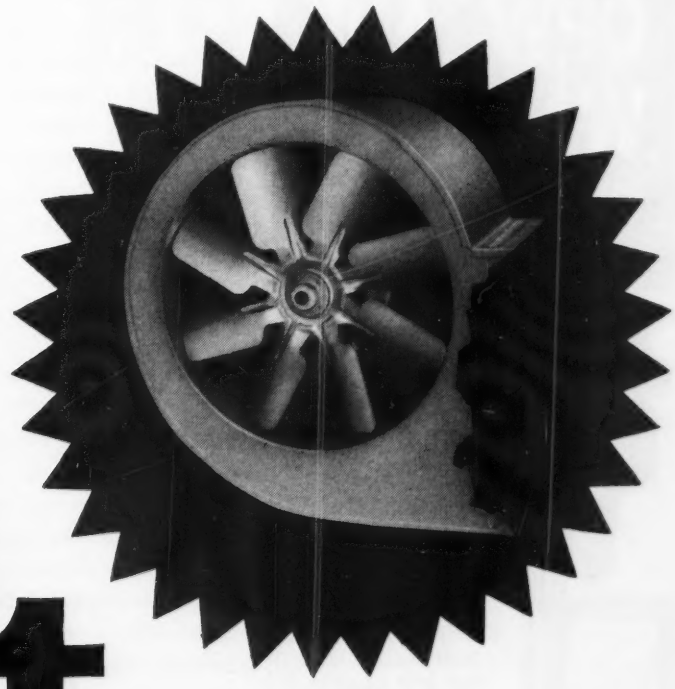
The Torrington RX Radiax blower introduces a new development in air impeller engineering.

It is a direct drive mixed-flow unit employing an exclusive Torrington design concept which results in the conversion of axially-developed air pressure into a radial flow pattern.

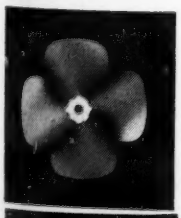
The result of this design breakthrough is a versatile unit that can be tailored to an extended range of customer needs by modification of the axial fan configuration to exact performance specifications. This eliminates dependence upon a variety of different sized units for varying requirements.

The RX offers three important advantages:

PERFORMANCE—A flat power curve makes it a non-overloading unit, permitting the use of a single smaller-capacity motor for varying applications, and availability of the unit in sizes heretofore too large for direct drive applications.



1st



CONSTRUCTION—A vertical center panel divides the unit longitudinally and supports the motor at its center of gravity. Resilient motor and fan mountings minimize noise and vibration. Result is quiet performance, and easy assembly and service.

ECONOMY—The basic design permits size reductions of as much as 36 per cent in the cubic dimensions of the unit, without sacrifice of performance. Thus, the RX is a thinner, more compact unit that can be fitted into tighter areas without choking of air intakes.

The design and performance of the RX give it a versatility that is of special importance to design engineers of air moving equipment. Full specifications are available.

THE TORRINGTON MANUFACTURING COMPANY

TORRINGTON, CONNECTICUT • VAN NUYS, CALIFORNIA • OAKVILLE, ONTARIO

STOP
• OVERFLOWS
• DELIVERY DISTURBANCES
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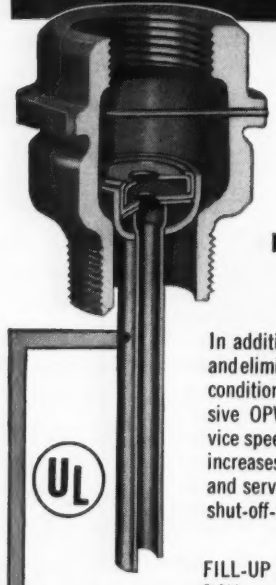
INSTALL
OPW TANK WHISTLE

FILL WHILE IT WHISTLES — STOP WHEN WHISTLE STOPS
Tank always fills to proper level.

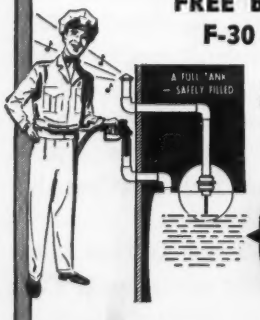


No. 7-A

In addition to controlling and eliminating hazardous conditions, this inexpensive OPW signalling device speeds up deliveries, increases filling efficiency and serves as the perfect shut-off-time alarm.

FILL-UP time, ANYTIME, DAY or NIGHT, FROM OUTSIDE THE BUILDING.

FREE BULLETINS
F-30 & F-34



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"We only buy what we can pay for, we earn our money the hard way and spend it in the old-fashioned thrifty manner." . . . "We all need more capital, but where can we get it." . . . "Bankers have always had an attitude of skepticism." . . .

"We find it quite hard to raise additional capital." . . . "Bankers' attitudes depend on standing of company; financial strength today is of paramount importance, now is the time to have no loans, mortgages or equipment financing—a company in this position will weather any economic recession." . . .

"We still haven't enough margin of profit to do the things we want to do; it is almost impossible to build up 'reserve capital' for new equipment." . . . "It's one helluva problem." . . . "There's no trouble getting short term notes on accounts receivable, but loans for expansion are very hard to get." . . .

Bank Attitudes

"As an old established corporation, our bank looks on our company as any other business; you know their attitude toward the oil business is based on the majors—not we peddlers." . . .

"The small businessman today unquestionably should have a tax break; to borrow capital today you must pay about 6%; if you have to borrow volume to support a return of 2%, it gets to be a very close operation. We are in the process now of eliminating every unprofitable operation that we can—all capital absorbing operations have been minimized, poor paying accounts eliminated, etc." . . .

"The oil business like any other business must operate at a decent gross in order to show the proper percent of profit." . . . "To quote the chairman of U. S. Steel, we have been eating our seed corn, and the day of reckoning is about here." . . .

"Our bank recommends we take precautions on heating work for contractors, that is, get your money." . . . "We can borrow only on real estate, and then about 50% of actual value." . . . "Haven't asked for any money so don't know the banker's attitude." . . .

"With the tax problem today, you don't have much money for expansion after paying taxes." . . . "We have started another type of business in addition to fueloil, and have taken fuel capital to expand same." . . . "We have never experienced a time when short term bank loans did not see us through." . . .

"Calendar year 1957 will not be as good as the previous three years—11% warmer weather vs. 2% increase in gallonage, equipment sales sharply off while labor is up over 9%."

Oilheating Permits*

OCTOBER 1957		10 MONTHS 1956	1957
..	Albany, N. Y.	54	..
61	Baltimore, Md.	584	..
136	Bridgeport, Conn.	1116	852
24	Columbus, O.	25	44
69	Detroit, Mich.	1110	491
57	Elizabeth, N. J.	613	419
..	Freeport, N. Y.	342	..
177	Hartford, Conn.	553	704
19	Irvington, N. J.	331	171
86	Meriden, Conn.	511	450
..	Milwaukee, Wis.	1216	..
39	Minneapolis, Minn.	175	175
21	Montclair, N. J.	148	136
2	Morristown, N. J.	60	40
59	Mt. Vernon, N. Y.	233	411
151	Newark, N. J.	1145	986
84	New Bedford, Mass.	857	843
50	New Haven, Conn.	312	281
..	New Rochelle, N. Y.	219	..
73	Norfolk, Va.	653	328
13	Omaha, Neb.	111	100
15	Orange, N. J.	125	86
11	Passaic, N. J.	95	91
42	Paterson, N. J.	454	244
359	Philadelphia, Pa.**	2592	1792
98	Portland, Me.	631	518
233	Portland, Ore.	2613	1683
14	Poughkeepsie, N. Y.	123	91
70	Providence, R. I.	668	873
37	Richmond, Va.	448	309
128	Roanoke, Va.	987	925
51	Rochester, N. Y.	953	640
11	Rockville Centre, N. Y.	108	55
..	Salem, Mass.	385	..
..	St. Louis, Mo.	1782	..
12	St. Paul, Minn.	79	81
0	Schenectady, N. Y.	56	50
..	Spokane, Wash.	443	..
107	Springfield, Mass.	1208	800
18	Stamford, Conn.	214	191
46	Washington, D. C.	430	309
21	White Plains, N. Y.	194	132
43	Wilmington, Del.	309	170
..	Worcester, Mass.	1015	..
42	Yonkers, N. Y.	299	311
	Totals	20,539	15,782

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

**Courtesy of "Philadelphia Inquirer."

POROUS Bronze Filters

EXCLUSIVE with Monarch NOZZLES

Monarch Oil Burner Nozzles . . . plus the World's FIRST POROUS BRONZE NOZZLE FILTER! This foolproof combination assures passage of only *pure*, clean, fuel oil and *guarantees* nozzle operation at maximum firing efficiency. Solid metal-to-metal contact eliminates any possibility of Dirt or Impurities slipping between nozzle and filter.

Use the nozzle filter acclaimed by heating experts . . . the revolutionary POROUS BRONZE FILTER by MONARCH . . . and at NO EXTRA COST over ordinary mesh strainers!

- **NO LOOSE PIECES**
- **BETTER THAN 200 MESH SCREEN**
- **MAXIMUM PROTECTION FOR FRACTIONAL GALLONAGE NOZZLES**

CLEAN! RUGGED! INEXPENSIVE!

Monarch
MANUFACTURING WORKS, Inc.
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E. S. Gallagher Sales Ltd., Toronto 12, Canada
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DEALERS: Buy from your Monarch Jobber

"24" and "48" NOZZLE BOXES . . .

Don't lose money on nozzles damaged by careless handling. Protect them until used in a sturdy, compact, steel MONARCH NOZZLE BOX. Sizes for either 24 or 48 nozzles. Steel Cabinet also available . . . holds 480 nozzles.

Remember: It costs more to clean a nozzle than to replace with a new, guaranteed-uniform Monarch Nozzle.

Where is the new home Market?

	No. of Permits Issued	
	Aug. 1957	8 Mos. 1957
ALABAMA	1,079	8,743
Birmingham area	381	3,202
Mobile area	247	2,026
Montgomery area	87	531
Nonmetropolitan areas	364	2,984
ARIZONA	1,385	10,370
Phoenix area	1,136	7,593
Nonmetropolitan areas	249	2,777
ARKANSAS	266	2,052
CALIFORNIA	13,218	120,111
Fresno area	189	1,699
Los Angeles area	6,546	56,621
Sacramento area	442	3,229
San Bernardino area	927	11,788
San Diego area	1,307	10,398
San Francisco-Oakland	1,714	17,667
San Jose area	810	7,754
Stockton area	106	1,215
Nonmetropolitan areas	1,177	9,740
COLORADO	1,101	8,702
Denver area	742	5,343
Nonmetropolitan areas	359	3,359
CONNECTICUT	1,550	10,286
Bridgeport area	133	1,144
Hartford area	317	2,024
New Haven area	225	1,064
Nonmetropolitan areas	875	6,054
DELAWARE	290	1,732
Wilmington area	280	1,680
Nonmetropolitan areas	10	52
DISTRICT OF COLUMBIA	..	..
Washington, D. C.	48	2,216
Maryland suburbs*	635	5,742
Virginia suburbs**	649	3,378
FLORIDA	6,023	43,821
Jacksonville area	349	2,901
Miami area	1,167	12,171
Orlando area	385	2,040
Tampa-St. Petersburg area	1,482	9,808
Nonmetropolitan areas	2,640	16,901
GEORGIA	1,281	9,957
Atlanta area	726	5,093
Columbus area	72	1,000
Savannah area	127	1,316
Nonmetropolitan areas	356	2,548
IDAHO	118	784
ILLINOIS	4,079	31,850
Chicago area (Does not include Ind. suburbs)	3,248	26,838
St. Louis area	132	528
Nonmetropolitan areas	699	4,484
INDIANA	1,672	9,874
Chicago suburbs	264	1,635
Fort Wayne area	80	483
Indianapolis area	541	3,088
South Bend area	134	849
Nonmetropolitan areas	653	3,819
IOWA	638	4,361
Davenport area	52	663
Des Moines area	104	810
Nonmetropolitan areas	482	2,888
KANSAS	1,120	5,814
Kansas City area	598	1,602
Wichita area	176	1,283
Topeka area	118	1,386
Nonmetropolitan areas	228	1,543

*Included in Maryland state total.
**Included in Virginia state total.

	No. of Permits Issued	
	Aug. 1957	8 Mos. 1957
KENTUCKY	602	4,919
Cincinnati suburbs	32	325
Louisville area	333	3,142
Nonmetropolitan areas	237	1,452
LOUISIANA	781	7,078
Baton Rouge area	218	1,597
New Orleans area	302	3,093
Shreveport area	161	1,022
Nonmetropolitan areas	100	1,366
MAINE	76	742
MARYLAND	1,712	16,909
Baltimore area	837	8,853
Washington, D. C. suburbs	635	5,762
Nonmetropolitan areas	240	2,294
MASSACHUSETTS	1,404	11,352
Boston	673	5,239
Springfield-Holyoke area	186	1,653
Worcester area	47	686
Nonmetropolitan areas	498	3,774
MICHIGAN	4,762	27,904
Detroit area	2,541	16,665
Flint area	189	1,521
Grand Rapids area	208	1,340
Nonmetropolitan areas	1,824	8,378
MINNESOTA	1,316	8,567
Minneapolis-St. Paul area	875	5,845
Nonmetropolitan areas	441	2,722
MISSISSIPPI	205	1,459
Jackson area	27	349
Nonmetropolitan areas	178	1,110
MISSOURI	1,203	8,467
Kansas City area	214	2,309
St. Louis area (Ill. suburbs listed under Ill.)	695	3,982
Nonmetropolitan areas	294	2,176
MONTANA	95	788
NEBRASKA	436	2,729
Lincoln area	107	549
Omaha area	264	1,691
Nonmetropolitan areas	65	489
NEVADA	105	1,895
NEW HAMPSHIRE	89	803
NEW JERSEY	2,547	19,564
Atlantic City area	67	402
New York City suburbs	1,408	11,568
Philadelphia suburbs	422	2,513
Nonmetropolitan areas	650	5,081
NEW MEXICO	469	3,765
NEW YORK	6,532	34,770
Albany, Schenectady, Troy	145	954
Buffalo area	658	4,781
New York City†	3,212	11,248
Suburbs of New York City	1,879	13,314
Rochester area	195	1,603
Nonmetropolitan areas	443	2,870
NORTH CAROLINA	883	6,136
Charlotte area	104	566
Greensboro-High Point area	203	1,005
Raleigh area	43	511
Nonmetropolitan areas	533	4,054
NORTH DAKOTA	227	963

†Covers dwelling units actually started.

	No. of Permits Issued	
	Aug. 1957	8 Mos. 1957
OHIO	4,306	28,258
Akron area	282	1,806
Cincinnati area	516	3,926
Cleveland area	1,326	7,222
Columbus area	429	3,488
Dayton area	364	2,571
Toledo area	168	1,346
Youngstown area	223	1,898
Nonmetropolitan areas	998	6,001
OKLAHOMA	532	3,635
Oklahoma City area	227	1,421
Tulsa area	105	601
Nonmetropolitan areas	200	1,613
OREGON	403	3,319
Portland area	204	1,798
Nonmetropolitan areas	199	1,521
PENNSYLVANIA	4,231	22,176
Allentown-Bethlehem area	145	1,144
Harrisburg area	133	769
Philadelphia area (See New Jersey for Jersey suburbs)	2,765	10,253
Pittsburgh area	683	6,399
Nonmetropolitan areas	505	3,611
RHODE ISLAND	175	1,591
Providence area	154	1,412
Nonmetropolitan areas	21	179
SOUTH CAROLINA	304	2,175
Charleston area	40	738
Nonmetropolitan areas	264	1,437
SOUTH DAKOTA	121	609
TENNESSEE	986	6,675
Chattanooga area	185	1,047
Knoxville area	229	1,325
Memphis area	283	2,277
Nashville area	171	1,044
Nonmetropolitan areas	118	982
TEXAS	5,030	39,643
Beaumont-Port Arthur area	142	1,199
Corpus Christi area	98	755
Dallas area	817	7,021
El Paso area	371	2,536
Fort Worth area	473	3,627
Houston area	917	8,737
San Antonio area	339	2,501
Nonmetropolitan areas	1,873	13,267
UTAH	353	3,890
Salt Lake City area	76	1,686
Nonmetropolitan areas	277	2,204
VERMONT	11	111
VIRGINIA	1,885	13,672
Portsmouth-Norfolk area	426	2,184
Richmond area	201	2,713
Roanoke area	143	862
Washington, D. C. suburbs	649	3,078
Nonmetropolitan areas	466	4,835
WASHINGTON	1,494	9,983
Seattle area	862	5,567
Spokane area	182	1,005
Tacoma area	130	1,036
Nonmetropolitan areas	320	2,375
WEST VIRGINIA	413	2,492
Charleston area	116	711
Nonmetropolitan areas	297	1,781
WISCONSIN	1,463	12,229
Madison area	125	839
Milwaukee area	774	6,769
Nonmetropolitan areas	564	4,621
WYOMING	94	538

MONCRIEF'S Stoppin' the Shoppin'

WITH THE MOST COMPLETE LINE OF

Value-Plus

FURNACES
AIR CONDITIONERS
PREFAB PIPE AND FITTINGS

Oil Winter Air Conditioner. Burner and Refractory Firebox are installed and all interior wiring is done at the factory!

Gas Counterflow Unit with front Panels removed. Connection of the gas line, electricity and ducts completes the installation!

Winter Air Conditioner with enameled Return Air Cabinet (an accessory).

New MONCRIEF Winter Air Conditioners are YEARS AHEAD!

Gas Fired — 75,000 to 150,000 Btu Input! Oil Fired — 78,400 and 112,000 Btu at Bonnet! Upflow and Counterflow Models! More Compact! Factory Assembled and Wired! Heavy, 16 and 14-gauge Heat Exchangers! Rigid, 21-gauge Cabinets! Attractive, Advanced Styling! More Competitive in Price!

MONCRIEF Lets You Spend Your Time PROFITABLY!

If you want to devote more time to increasing sales and installations, instead of shopping around for "bargains", unload your shopping chores on your Moncrief Wholesaler. The competitive prices he has on the complete Moncrief line make every Moncrief unit an everyday bargain!

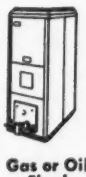
When you shop the Moncrief way, you just pick up the 'phone and make one call, or make one stop at your Moncrief Wholesaler's. He can give you prompt delivery of the right size and type of Moncrief Furnace or Air Conditioner — and Pipe, Fittings, Plenums — everything you need for better installations. And you will eliminate the necessity of carrying any stock in order to enjoy lower prices.

You will also save installation time and reduce call-backs to a minimum when you standardize on Moncrief. Moncrief equipment is designed and built by an old-line organization of heating experts. Furthermore, Moncrief has been outstanding for over 60 years with the kind of rugged construction that results in service-free performance.

If you have been working for wages instead of for profits, now is the time to get in business with your Moncrief Wholesaler. Call, today!

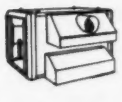
Gas or Oil Fired Winter A. C. Units

Gas or Oil Fired Utility and Counterflow Winter A. C. Units



Gas or Oil Fired Gravity Furnaces

Horizontal Furnaces 4 Gas Sizes 4 Oil Sizes



Gas Duct Furnaces 4 Sizes

Gas Fired Unit Heaters

Gas Conversion Burners

2, 3 or 5 H.P. Air or Water Cooled Gas or Oil Fired Year 'Round A. C. Units

3 or 5 Ton Water Cooled Summer A. C. Units

2, 3 or 5 H.P. Air Cooled Summer A. C. Units with choice of "V" (Upflow) or "Flat" (Horizontal Flow) Cooling Coils

THE HENRY FURNACE COMPANY • *Medina, Ohio*

HEATING AND AIR CONDITIONING UNITS — MONCRIEF — FURNACE PIPE AND FITTINGS

by Milburn Petty

WASHINGTON—Chances of the Harris Gas Bill being enacted by Congress next session are slim—unless the gas industry is united and the coal people withdraw their opposition.

Even with all elements of the oil and gas industries supporting this legislation—to free producers from utility-type control—and the coal interests satisfied, it would still be an uphill fight to pass it.

Not all of the oil producers backed the bill last time, believing that it contained "too much" control.

Coal people, on the other hand, contend that the bill does not go far enough—they have urged industrial gas sales be subjected to control by the Federal Power Commission, with a specific ban on "below-cost" sales.

Some pipelines may be willing to accept a watered-down version of the coal-sponsored amendment, deleting any "standards" for setting of industrial gas prices by FPC. And there are signs that coal interests might go for this.

Even so, the gas bill faces a fight from consumer-state representatives with elections coming up next year.

NOJC Studies Fueloil Prices

National Oil Jobbers Council's fueloil committee—headed by William F. Kenny, Jr., New York—decided that, in order to function efficiently, it was necessary that it know more of various price and sales structures.

So, it proposed—and the Council adopted—the following resolution:

"A survey of (a) the base price structure and of the various brackets of fueloil sales and deliveries, price and volume-wise, be made by the NOJC through the offices of the member state associations.

"The survey should also reflect (b) the present major company competitive pricing in various areas. (c) Information as to whether an additional increase in price is added to the base price for the product when a customer refuses to go on an automatic delivery schedule. (d) Information as to the laid-down cost of the product to the bulk plant should also be collected."

NOJC also endorsed the idea of setting up a "Fueloil Institute" which would have responsibility "to foster and promote the interests of supply and marketing segments of the petroleum industry," financially supported by all segments of the industry.

'Voluntary' Import Plan Gains

The "voluntary" imports control program, with each importer assigned a "quota" of crude oil that each can bring into this country, apparently is succeeding to satisfaction of the government and independent oil producers, generally.

The Cabinet imports committee plans to meet soon to consider (1) whether import program should be extended to include the West Coast, now exempt, and (2) whether imports of residual should be brought under the "voluntary" restrictions.

Oil Pipelines Face Probes

Department of Justice, prodded by Senator O'Mahoney (D., Wyo.), and Rep. Celler (D., N. Y.), chairmen of antitrust subcommittees on both sides of the Capitol, has launched an all-out probe of alleged monopolistic control of oil pipelines by major companies.

This was disclosed by DJ Antitrust Chief Hansen before Celler's committee during hearings on the 1941 Elkins Act consent decree limiting shipper-owners of oil pipelines to 7% return.

Just before his appearance, Hansen filed suits against four pipelines to test validity of certain accounting practices under terms of the decree.

'Little Inch' Conversion Hit

Federal appellate court here has again interposed a roadblock against conversion of the "Little Inch" pipeline from gas back to moving oil products as it did during World War II, with a lateral to Chicago.

Barge operators, fighting conversion of this pipeline, were given a new lease on life in this battle when the court sent the case back to the FPC.

Meanwhile, the Office of Defense Mobilization is making a "final" final study of government aid for proposals to build oil pipelines from the Gulf to the East Coast (sponsored by Paul Ryan, New York) and from West Texas to California (proposed by L. M. Glasco, Dallas).

Canadian Gas Imports Stymied

Launching of a fuels and energy study by a Canadian commission—which may take a year or two to complete—apparently has stymied plans for the Mid-Western Gas Pipeline which was to receive supplies from Canada. Exportation of gas is one item to be studied.

Prime Minister Diefenbaker has indicated that no "final" decision on such exports is likely until the commission reports back.

Before the FPC, representatives of the firm financing Trans-Canada Pipeline (which would make deliveries to the United States) said the matter needed "clarification" now.

Jobbers Oppose Import Curbs

National Oil Jobbers Council is still opposed to any restrictions on imports of crude oil or products but, out of deference to representatives of jobber associations in Texas and Oklahoma "where we have to live with producers who are our customers," the NOJC agreed to assemble data on oil imports for a full-dress debate of this issue at its Spring meeting in New Orleans, next May.

Asks West Coast Suit Trial

Senator Morse (D., Ore.) is pressing DJ for early trial of the omnibus oil antitrust suit in California. DJ has indicated that it would not settle for a consent decree except on terms at least as strict as the relief sought in the complaint.

This suit, if successful, might mean separation of suppliers from marketing petroleum products at retail on the West Coast.

FASTEST PRIMING PUMP EVER DEVELOPED FOR THE OIL HEATING FIELD

Webster 2-stage ServiceSaver

COMPLETELY INTERCHANGEABLE
—will replace any fuel-unit now on market

MOUNTS IN ANY POSITION
—for easier changeover

360° PORT ARRANGEMENT
—optional ports for convenience and serviceability

COMPACT AND LIGHTWEIGHT
—permits installation in the tightest of quarters

CONVERTIBLE
—one and two pipe changeover
—without extra parts

LOW-FRICTION SEAL
—and life-time lubricated outboard seal bearings

Oil burners reach a new high in efficiency and performance with this new Webster 2-stage **ServiceSaver.** It's faster priming to assure quick starts after the tank runs dry.

Self-Purging

Special design of the new **ServiceSaver** eliminates most common pump failures from small air leaks in plumbing, restricted lines. A reservoir is located between two sets of independently operating gears. Separate suction gears draw oil from the tank, filling this reservoir, from which air, foam and excess oil is returned to the tank. Pressure gears have just *one* job — to move air-free oil to the nozzle at constant pressure.

Reserve Capacity

Webster design compensates for gear wear to maintain original high lift capacity for years and years. More, exclusive rotary filter found only on the Webster **ServiceSaver** eliminates wire mesh strainers. It never clogs, never needs cleaning . . . provides new filter efficiency for the life of the pump.

There are many other important reasons for specifying this new Webster 2-stage **ServiceSaver** for your oil burner . . . reasons why it will operate more efficiently — satisfy more completely. To know more about the pump you'd design for yourself, write for Bulletin A9A1 — or

talk to the man from Webster

HEATING DIVISION

WEBSTER WEBSTER W ELECTRIC **ELECTRIC**
MELROSE 3-3511
RACINE · WIS

FRANKLIN ADV. INC.–A-110

fuel oil & oil heat

STEP UP YOUR CLEANING POWER

. . . END SUCTION LOSS NOW!

WITH MASTER-CRAFT DUST BAGS, FILTER UNITS, DISPOSABLE FILTERS

Here is the most complete and comprehensive Standard stock to fit all makes and models of Industrial Vacuum Cleaners. Any type . . . any size . . . or any quantity that you may require can be shipped from stock the same day your order arrives.

The MASTER-CRAFT line of Dust Bags, Filter Units and Disposable Filters represent the most advanced methods of dust separation and cleaning efficiency available, developed against a background of practical experience in design, workmanship and manufacturing facilities second to none in the field today.

SEND FOR DESCRIPTIVE LITERATURE TODAY!

Jobbers and Distributors inquiries invited.

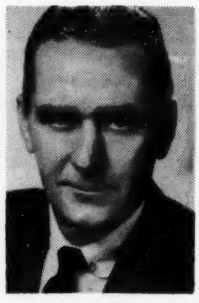
MC MASTER-CRAFT SUPPLY CO. INC.
W. HAVERSTRAW, N.Y.
Manufacturers and Suppliers of Cleaning Equipment

Names in the News

Lewis J. Cox, executive vice president, Iron Fireman Co., Cleveland, Ohio, was elected president of the company at a recent meeting of the board of directors.

Cox has been a member of the Iron Fireman organization for 28 years. Joining the general sales department in 1929, he became a district sales manager for New York in 1938. He was promoted to the position of assistant to the president in 1946, elected a vice president in 1951 and four years later given the additional duty of general manager in charge of the heating and cooling division. His promotion to first vice president and chief executive officer followed in April, 1957.

John B. Lewis has been promoted to the position of sales manager, Coastal Oil Co., Newark, N. J., while Elmer J. Garrabrant has become manager of accounts. Garrabrant joined the company in 1941, Lewis in 1945. Only last year Lewis was appointed assistant sales manager.



Lewis

Everett N. Gaulding, Jr., has been promoted to the position of district sales manager Des Moines, Iowa, for the General Electric Communication Products Department, General Electric Co., Syracuse, N. Y. Gaulding replaces *J. E. Ardery* who has been transferred to the Communication Products Department's Service organization in Syracuse. Further appointments in that department include three district sales representatives: *Harley F. Rolfe* at Seattle, Wash., *L. Keith Elrod* at Nashville, Tenn., and *M. G. McRae* at Jacksonville, Fla.

M. S. Lebair has been named assistant vice-president of marketing, and *Robert E. Gassatt* has been appointed general sales manager of packaged products, York Corp., Division of Borg-Warner Corp., York, Pa. In his new position as assistant to the director of marketing, Lebair will cover all areas of the marketing program, with specific emphasis on trade relations. Cassatt will supervise sales of the firm's residential heating and cooling equipment, refrigeration products, commercial airconditioners and other related products.

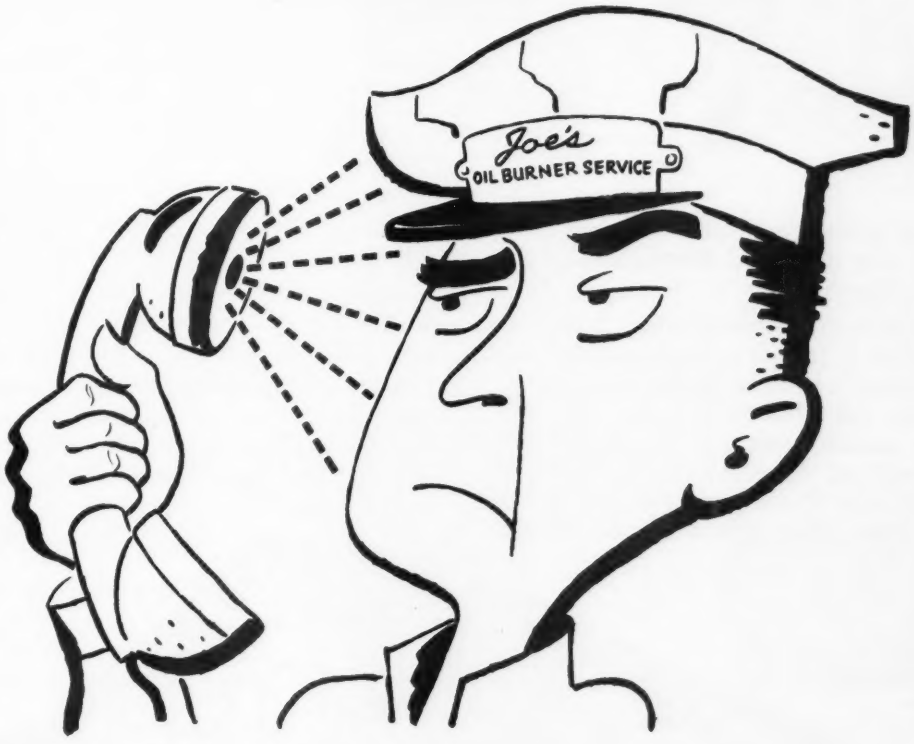
H. M. Carnahan, as new director of sales, Penn Controls, Inc., Goshen, Ind., is responsible for the firm's entire sales activities, both foreign and domestic. *Paul O. Penn,* assistant to the president, who has been handling sales activities, will now devote full time to corporate affairs. In his twenty years with the industry, Carnahan has served as vice-president, Sunbeam Division, American Radiator and Standard Sanitary Corp., Elyria, O., and sales manager of residential heating and airconditioning equipment, Airtemp Division, Chrysler Corp., Dayton, O.

Carnahan

Robert D. Eichman, sales manager, Penn Controls, Inc., Goshen, Ind., has been transferred to the Milwaukee district office, where he will be assistant to the manager. His transfer comes in the wake of an increasing volume of business handled by the Milwaukee district office.

Philip Borkat, former chief engineer of Viking Air Conditioning Corp., now is general manager of Arklon Manufacturing Co., Cleveland,

"call-back" TROUBLE?



TRY DELAVAN

MEMBER OHI OIL-HEAT INSTITUTE OF AMERICA

The nozzle chosen as original equipment by more than 120 *leading* oilburner manufacturers.

DELAVAN MANUFACTURING COMPANY • WEST DES MOINES, IOWA

TELL THE STORY OF *"Hydronics"*

Radiant sunny warmth...draftless, warm floors

The heat distributors are placed under the windows and along cold outer walls. They send out a constant flow of *controlled* heat, warming the floors and keeping room temperature uniform at all levels...a strong inducement for families with young children.

"Hydronics", or the science of heating and cooling with water, is a one word description of the B&G *Hydro-Flo* System.

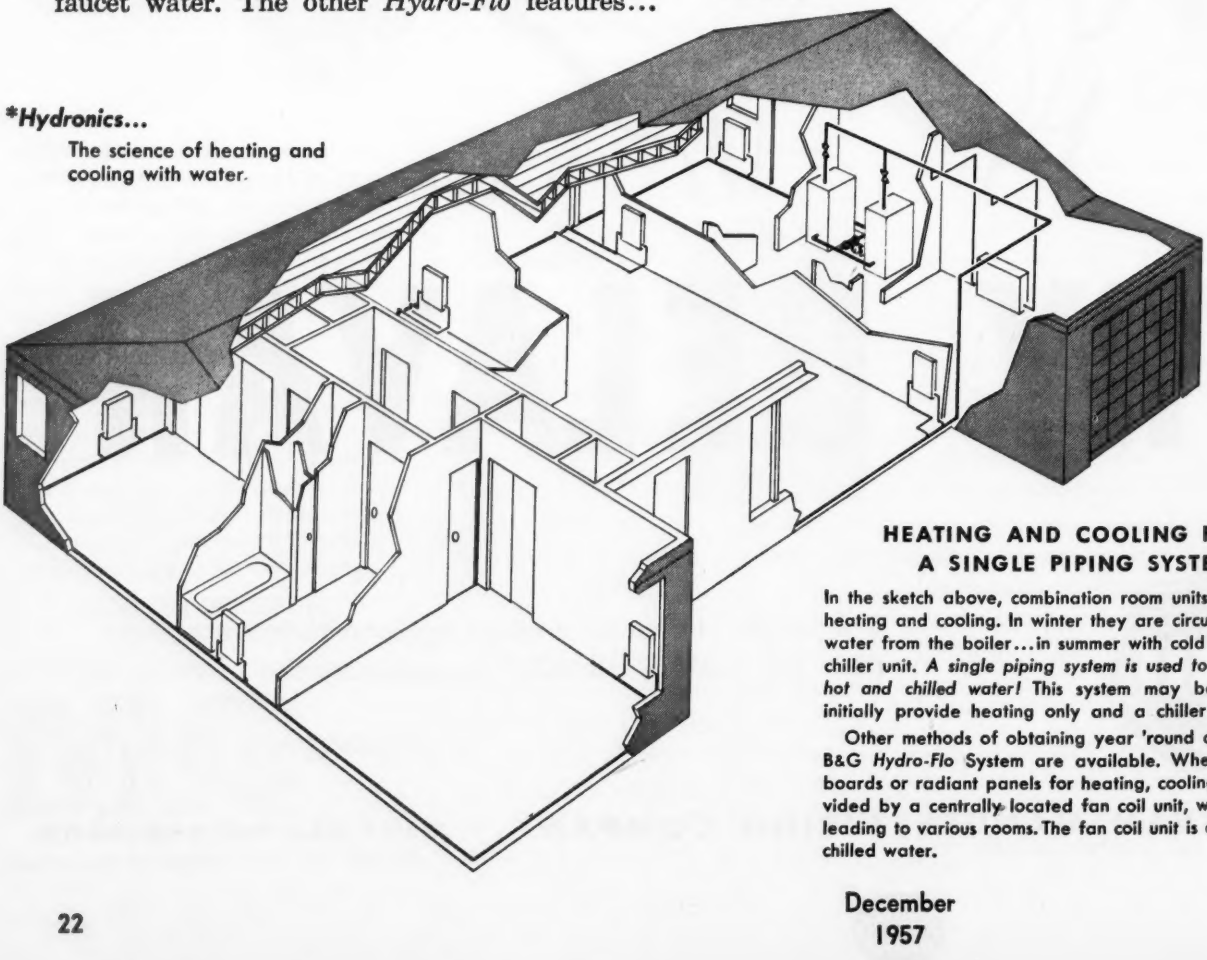
The B&G *Hydro-Flo* System offers five outstanding benefits to today's quality-conscious buyers. This *hydronic* system employs circulated water to provide the advantages *only water can give!* It can be installed initially as a forced hot water system with all the comforts of controlled radiant warmth, plus a year 'round supply of hot faucet water. The other *Hydro-Flo* features... cooling...snow melting...zoning can be included either when building or at any time thereafter.

And certainly not least, the equipment of a B&G *Hydro-Flo* System is all of durable materials, capable of giving a lifetime of service.

Here's everything modern science has devised for more comfortable, more convenient living. That's why we say, "Tell the complete story of the *hydronic* B&G *Hydro-Flo* System and you've made a sale."

***Hydronics...**

The science of heating and cooling with water.



HEATING AND COOLING FROM A SINGLE PIPING SYSTEM

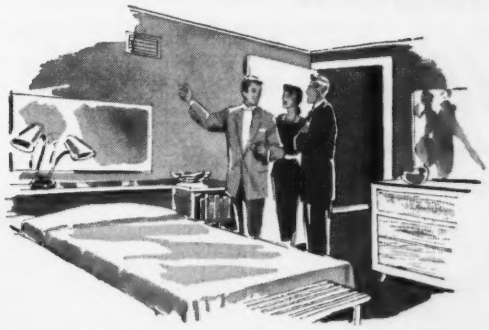
In the sketch above, combination room units provide both heating and cooling. In winter they are circulated with hot water from the boiler...in summer with cold water from a chiller unit. *A single piping system is used to circulate both hot and chilled water!* This system may be installed to initially provide heating only and a chiller added later.

Other methods of obtaining year 'round comfort with a B&G *Hydro-Flo* System are available. When using baseboards or radiant panels for heating, cooling can be provided by a centrally located fan coil unit, with short ducts leading to various rooms. The fan coil unit is circulated with chilled water.

AND YOU'VE GOT THE SALE MADE!

Hot faucet water

A B&G *Hydro-Flo* System provides hot water in virtually limitless quantities—heated by the same boiler that heats the house. Saves the cost of a separate heater.



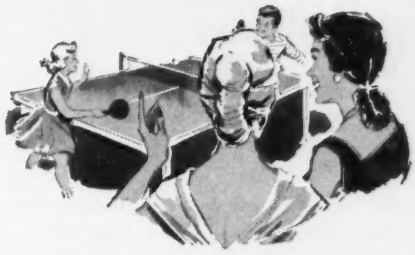
Summer cooling—now or later

Several methods are available for cooling a home with a circulated chilled water system. Whether installed when building or at a later date, the system can be more accurately designed and controlled to meet any cooling need.

THE B & G BOOSTER PUMP

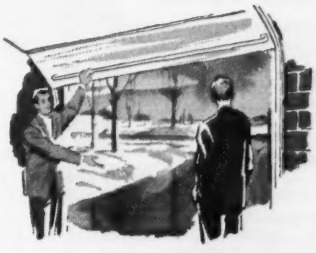
The key unit of a B&G *Hydro-Flo* System is the Booster Pump. This electric pump is used to circulate water for heating the house in winter, cooling it in summer and for snow melting panels.

Quiet, vibrationless operation and long-lived dependability are the outstanding characteristics of the B&G Booster.



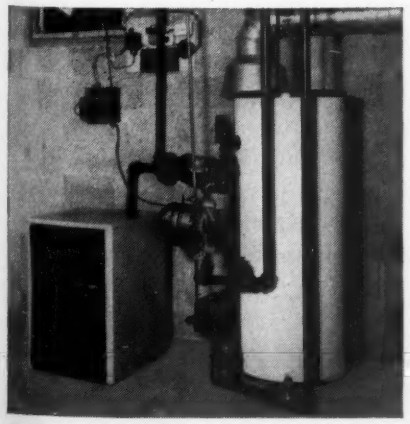
Simplified zoning—ideal for split-level homes

Zoning a B&G *Hydro-Flo* System is achieved with a minimum of simple, dependable equipment—only *one* boiler needed and no complex controls. In a split-level house, zoning can be used to assure either a uniform temperature throughout or to provide different temperatures in different areas of the house.



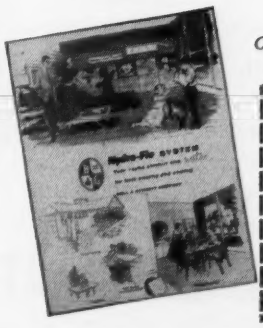
Snow melting

Where a B&G *Hydro-Flo* System is installed, the same boiler that heats the house can be utilized to heat an anti-freeze solution for circulating snow melting coils under driveway and sidewalks.



Neat, compact installation both heats and cools

Side-by-side installation of boiler and water chiller takes little room and keeps home in comfort all year 'round. B&G *Hydro-Flo* equipment is used to circulate both hot and chilled water.



*Hydro-Flo** SYSTEM

BELL & GOSSETT

COMPANY

Dept. FB-10, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

*Reg. U. S. Pat. Off.

BELL & GOSSETT COMPANY,
Dept. FB-7, Morton Grove, Ill.

Please send your free booklet on the B&G *Hydro-Flo* System.

*Name*_____

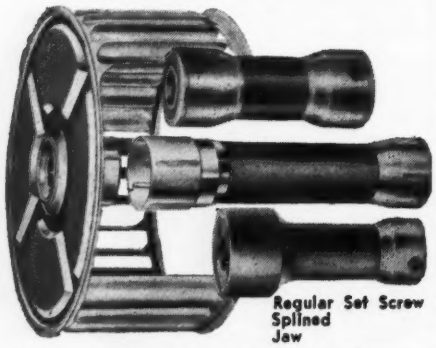
*Address*_____

*City*_____ *Zone*____ *State*_____

QUALITY is our business ..without *any* compromise

AND ONLY *Guardian* GIVES YOU ALL THREE —

1. FLEXIBLE COUPLINGS



Regular Set Screw Splined Jaw

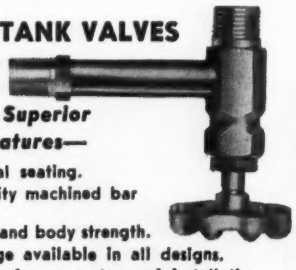
Only Guardian gives you these features—

- **ROLL SPINNING—Exclusive process joins all three components at one time—while in final operating alignment.**
- **BRAIDED RUBBER—Ground to absolute true concentricity. Furnished in BUNA-N TUBE and NEOPRENE COVER. Lateral and angular alignment requirements fully met.**
- **ONE-PIECE DESIGN—Minimizes assembly and handling costs. Made to exact lengths required.**

Over 5,000,000 Guardian couplings are on original equipment. This is your assurance of highest quality and universal acceptance in the field.

2. OIL TANK VALVES

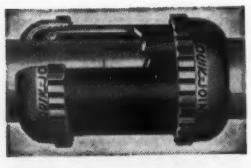
No. 1910 B



Check These Superior Guardian Features—

- **Metal-to-metal seating.**
- **Highest quality machined bar stock.**
- **Greater wall and body strength.**
- **Fusible linkage available in all designs.**
- **Valve designs for every type of installation.**

3. QUIK JOINT



Steel compression fittings for connecting steel pipe.

Patent No. 2,685,460

- **Eliminates threading of pipe.**
- **Decreases cathodic corrosion and electrolysis.**
- **Guaranteed for pressure up to 2000 P.S.I.**
- **Allows 7° angular deflection.**
- **U.L. approved for oil and gas.**

Write for free descriptive literature.

Guardian PRODUCTS CORP.
COUPLING DIVISION

Dept. F-127 1215 East Second Street
MICHIGAN CITY, INDIANA

Ohio. Arklon manufactures Bon-Air automatic atomizing humidifier and other humidification products under the Bon-Air tradename.

Thomas C. Sutton has been named vice-president of sales OPW Corp., Cincinnati, Ohio.

Since joining OPW, Sutton has held various positions, among them manager of the firm's industrial engineering department, manager of manufacturing and most recently vice-president of manufacturing. In his new post he will direct OPW's sales activities throughout the United States, Canada, and abroad.

Saul A. Fern has been named advertising manager, Pullman Vacuum Cleaner Corp., Boston, Mass. Fern was previously a member of the advertising agency, Fern & Assoc., Providence, R. I.

Richard B. Loynd has been appointed merchandising sales manager, Emerson Electric Mfg. Co., St. Louis, Mo. Having spent five years with Lincoln Electric Co., Cleveland, Ohio, Loynd joined Emerson in 1955, where as assistant to the general sales manager, he has been in charge of motor sales and merchandise sales training.

George H. Childers has been promoted to merchandise sales manager and *Edward K. Handlan* to manager of airconditioning sales by Emerson Electric Manuaftcuring Co., St. Louis. Childers will have responsibility for the sale of commercial fans, industrial fans and airconditioners. Handlan will direct the sale of room airconditioners.

Alfred R. Scarperi has been designated to direct sales engineering work on airconditioning in the St. Louis sales area, for Heating and Air Conditioning Div., National-U. S. Radiator Corp., Johnstown, Pa. *H. Wells Williams* has been selected as consultant for the firm's Engineering and Research Department and *E. S. Spangler* has been appointed manager of heating elements engineering. Since joining the company in 1954, Scarperi has worked as sales engineer and been active in National-U.S.' airconditioning school. Williams was formerly manager of heating elements engineering; Spangler was product manager.

W. C. Coleman, founder and chairman of the board, The Coleman Co., Wichita, Kan., died on November 2 at the age of 87. Best known for gasoline lamps, lantern and portable stoves, he founded his company in January 1900 and eventually became a leading manufacturer of heating and airconditioning equipment. Frequently called "Wichita's first citizen," he was former city commissioner and mayor and was affiliated with a number of civic organizations. He was a lay leader in the Baptist Church and in 1943 was acclaimed by the National Association of Manufacturers as a "Modern pioneer of America." He is survived by his wife; two sons, both of whom are active in the management of the company.

William Keichline has been named assistant sales manager of Drayer-Hanson, Division of National-U. S. Radiator Corp., Los Angeles, Calif. Formerly a member of the sales application engineering staff, he joined the airconditioning manufacturing firm in 1952 after an association with Hugh Robinson & Sons, contractors.

Another promotion announced is that of *Roy Graser* from engineering to the sales department where he will assume the duties of sales application engineer replacing Keichline.

Leonard M. Call has been designated merchandising manager, Airtemp Division, Chrysler Corp., Dayton, Ohio. Formerly assistant advertising and sales promotion manager, General Electric Air Conditioning Division, Bloomfield, N. J., Call, in his new position, will head all advertising and sales promotion of residential and commercial cooling equipment.

NEW HUSTLE FOR '58 . . . CHEVROLET MEDIUM- AND HEAVY-DUTY HAULERS

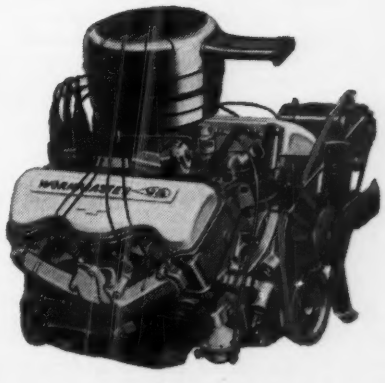
New V8 power! New 6 stamina!

New Chevrolet trucks bring you modern V8 engines with more staying power . . . great 6's built to keep on delivering on job after job after job. And a V8 so new in design it even looks different on the outside!

Here's *modern* truck power from Chevrolet! Standard in middleweight Series 50 L.C.F. models is a new edition of the Heavy-Duty Taskmaster V8 with 160 h.p. for fleet hauling and new durability features such as Stellite-faced exhaust valves. Standard in Series 60 models is the famous Jobmaster 6 with more power than ever (150 h.p.) and more built-in dependability as well.

And standard power in Series 70 and 80 models is new and better, too! The big Heavy-Duty Super Taskmaster V8, rated at a high 175 h.p. brings you new features that mean dollar-saving efficiency on jobs that work a truck hard.

But that's not all! Series 90 and 100 trucks provide a *new kind* of big truck power, the 230-h.p. Workmaster V8, with revolutionary Wedge-Head design. It develops high power and torque at fuel-saving low r.p.m. See your Chevrolet dealer about Chevy's new brand of hustle! . . . Chevrolet Division of General Motors, Detroit 2, Mich.



All-new Workmaster V8 with Wedge-Head design! Combustion chambers are wedge-shaped to get extra power, top economy from regular grade fuel!

Latest editions of the "Big Wheel" in trucks

NEW CHEVROLET TASK-FORCE 58 TRUCKS

CHEVROLET

for steam, hot water or convector radiators

MAID-O'-MIST AUTOMATIC HUMIDIFIERS

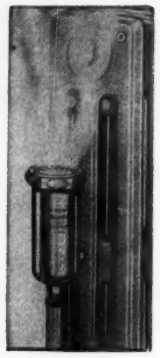
Original in design . . .
Low in cost

On low pressure steam systems—

AUTO-VENT *automatic* **HUMIDIFIER**

No. 95

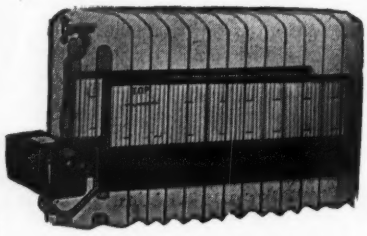
Here's the inexpensive, efficient, QUIET way to keep the air freshened and comfortable. It discharges 1 pint of water vapor per hour at 1 lb. steam pressure . . . enough for 2000 cu. ft. Easy to install . . . just remove air vent valve from radiator and screw No. 95 in its place.



No. 95 4½" high, 2¼" diameter.

On hot water or steam radiators

OL' FAITHFUL *automatic* **HUMIDIFIER**



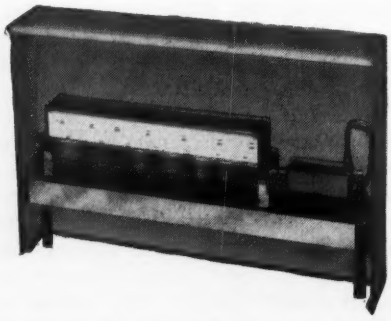
Heavy copper twin troughs, each 5/16" wide by 2" high are concealed in loops inside the radiator sections from the side. A constant water line is maintained automatically in the troughs by a float controlled water valve. Patented corrugated evaporator pads extend 3" above water line in troughs.

Ol' Faithful uses water from radiator on hot water radiators, or from nearest supply on steam installations.

Three sizes: 18", 24" and 34" lengths.

Complete range of sizes!

CONVECTOR HUMIDIFIERS



For either cast iron or copper convector radiators . . . 5 lengths, 2 and 4 water troughs. Constructed of heavy copper, the water troughs are 3/8" wide, spaced 1" apart for unrestricted air flow. Each trough is automatically supplied with water from radiator by No. 59 float control valve. On steam installations, water is taken from nearest supply thru copper tubing. Shipped assembled.

WRITE FOR NEW CATALOG

MAID-O-MIST Inc.

MAID-O'-MIST, Inc.

3217 NORTH PULASKI ROAD · CHICAGO 41, ILL.

Blickensderfer, Chairman of API Fuel Oil Committee

AT THE NOVEMBER 11 meeting of the Fuel Oil Committee, Marketing Division, American Petroleum Institute, C. M. Blickensderfer was elected chairman for 1958, succeeding L. B. Fox who resigned on being transferred to another department of his company, Socony Mobil Oil Co.

Blickensderfer is fueloil department manager of the Sinclair Refining Co., New York. Also elected were A. J. Becker, of Becker-Marsden Co., St. Louis as vice-chairman, and Robert Gray of FUELOIL & OIL HEAT, New York, as secretary of the Committee.

This committee session, held at Chicago's Hotel Congress, was not a formal affair with speeches but rather a business meeting for reports and recommendations.

Increased Promotion

The high point of interest was a report from D. L. Barrett, fueloil department manager, Esso Standard Oil Co., New York, on a proposed enlargement of the industry's promotional effort for oil heat. Barrett was chairman of a special task committee set up last May to explore and advise on the possibilities of developing a public information center to better inform the country about fueloil.

He brought the committee's recommendation that the proposed effort is practical and should be undertaken; this was followed by unanimous endorsement of the 25 committee members and 40 guests present.

At the start this new effort is to be handled through the office of Oilheating Market Reports, New York, and financed by subscriptions of major oil companies and independent terminal operators.

At the meeting Robert Gray, director of Oilheating Market Reports, told the members that there are now 28 promotional campaigns operating in as many markets and their total investment this year is about $830,000.

Guests of the Committee, speaking informally were B. L. Ray, vice-president for marketing, Esso Standard Oil Co., and Dwight M. Colley, marketing vice-president of API and also of his own company, Atlantic Refining.

6 Sound Answers to 6 Reasonable Questions about TODAY'S GASOLINE!

Most Americans think of the oil industry in terms of gasoline. The better they understand gasoline – the better they understand you and your industry. So keep your friends and customers informed by keeping yourself informed about *the facts of today's gasolines!*

Q. Why has the price of gasoline gone up in the past 5 years?

A. **Like everything else, gasoline has gone up in price–but very little. Big boosts in gasoline quality have more than made up for the small increase in price. And, of course, taxes on gasoline have gone up, too.**

Q. Just how much are these gasoline taxes?

A. **Direct taxes–Federal and State–now add 8.9¢ (national average) to the price of every gallon of gasoline. This adds 40¢ to every dollar spent for today's gasoline.**

Q. And how much has the price of gasoline gone up?

A. **The actual price of the gasoline itself has risen less than 6% in the past 5 years. Compare that with the price increases on other items you buy every day.**

Q. What are these big boosts in gasoline quality?

A. **Well, today's "regular" gasoline is as good as "premium" gasoline was just 5 years ago.**

Q. And what about today's "premium" gasoline?

A. **Today's "premium" is as powerful as fighter plane gasoline at the end of the last war.**

Q. Why do I need these "higher-powered" gasolines?

A. **Today's powerful engines demand these improved fuels for efficient operation. The gasoline of your father's day would be completely inadequate in today's modern car.**

With Today's Gasoline YOU DRIVE THE BEST BARGAIN IN YEARS!

Clip this coupon for more information about today's gasoline and your industry!

American Petroleum Institute, Dept. G
50 W. 50th St., New York 20, N. Y.

I would like to obtain more information about today's gasoline quality, prices and taxes. Please send me your FREE booklets.

NAME_____

ADDRESS_____

CITY_____ **ZONE**____ **STATE**_____

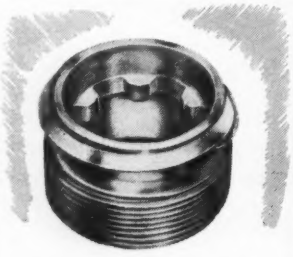
fuel oil & oil heat

MAKE MORE MONEY ON YOUR DELIVERIES

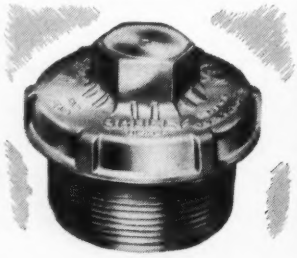
ABSOLUTELY CLEAN DELIVERIES, TOO

The Scully UNIFIL system provides a thoroughly-proven oil delivery method by which an absolutely tight connection is made in seconds . . . pumping is done with safety and cleanliness at the highest speeds . . . disconnection is made rapidly and cleanly. There is no danger of blowback, gushout or afterdrip. The entire fill is made with advantage to the company, the customer and the deliveryman. The UNIFIL system saves time . . . saves money.

The UNIFIL system requires no cumbersome accessories. There are but three basic fittings in the system:

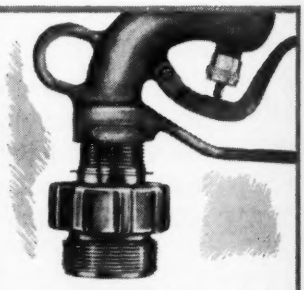


UNIFIL ADAPTOR is screwed permanently into the fill pipe.



UNIFIL CAP screws onto the adaptor.

UNIFIL CONNECTOR is attached to nozzle—has a special cap wrench inside its mouth. At time of delivery a single twist to left removes the cap.



Then a single twist to right attaches the connector to the adaptor in an absolutely tight connection.

SUBSTANTIAL SAVINGS

The UNIFIL system makes it possible to safely utilize high pumping speeds – up to 100 gallons per minute. The experience of hundreds of fuel oil companies proves that the UNIFIL system will save an average of more than two minutes per delivery, and savings of more than five minutes are frequent. *(The value of driver and truck time is commonly figured at about 10 cents per minute.)*

OVER 300,000 IN USE

The UNIFIL system is the most extensively used tight-fill system for light oil delivery. Over 300,000 tanks are now equipped for the UNIFIL system and more are added each week. Millions of deliveries have been made with savings and satisfaction. Companies, large and small, both major and independent marketers, report gratifying results.

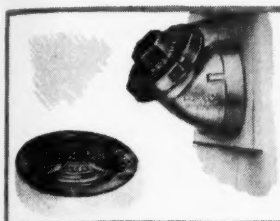
MADE BY SCULLY SIGNAL COMPANY, SPECIALISTS IN TIME AND MONEY-SAVING EQUIPMENT FOR THE PETROLEUM INDUSTRY

© 1957 Scully Signal Co.

® UNIFIL Trade Mark Registered U.S. Patent Office.
U.S. and Foreign Patents Pending.

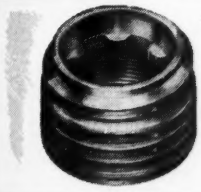
ONLY UNIFIL GIVES ALL THESE ADVANTAGES

Only the UNIFIL system provides all these advantages and benefits, which together assure greater economy, ease, cleanliness and satisfaction in delivery:



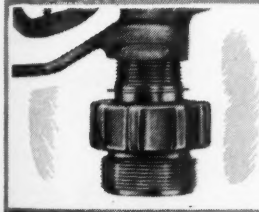
ADAPTORS FOR EVERY PLACE

UNIFIL adaptors are available for every size of pipe and every type of fill: flush pavement, wall, etc. Thus time can be saved at every stop.



CAN BE INSTALLED IN SECONDS

Adaptors have interior lugs; are quickly and permanently installed with a ratchet wrench, by the deliveryman at the time of the first UNIFIL delivery.

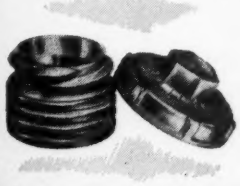


QUICK, POSITIVE CONNECTION

Absolutely tight, safe connection **with a minimum 360° contact** is made in an instant. The heavy-duty threads of the adaptor and connector hold securely under the highest pumping pressures.

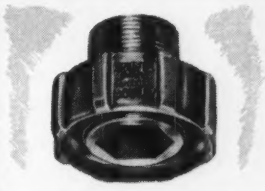
OIL DRAINS COMPLETELY

Afterdrip is eliminated. The UNIFIL system is engineered so oil from the nozzle drains completely **inside** the fill pipe — a feature very important for cleanliness.



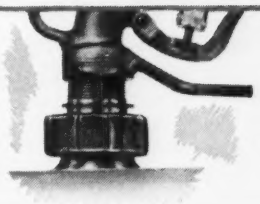
LONG LIFE ADAPTOR AND CAP

UNIFIL adaptors and caps are ruggedly made of non-rusting special alloy, and being **self-compensating for wear** will last indefinitely. This construction eliminates replacement problems and expense.



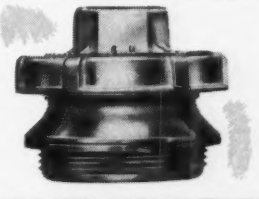
LONG LIFE CONNECTOR

The UNIFIL connector also is ruggedly made. It is engineered to withstand both the continuous connection to adaptors and the battering and banging of reeling and unreeling.



NO CUMBERSOME ACCESSORIES

The driver is not burdened and delayed by cumbersome wrenches, pipe nipples to build up fills, wipe rags or accessories.

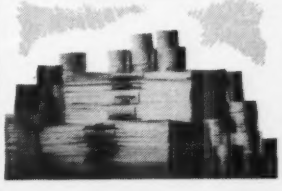


ALL-WEATHER CAP

Overhang of cap acts as a watershed —protects tank against water; guards adaptor against freezing in cold and icy weather.

IDENTIFICATION DISC

UNIFIL caps are recessed for insertion of company identification discs. Identification prevents mis-delivery and is a permanent point-of-use advertisement.



QUICKLY RETURNS A PROFIT

As a rule, the UNIFIL system pays for itself and begins to return a profit within the first season of use. Send for full information.

SCULLY SIGNAL CO.

174 Green Street, Melrose, Mass.

Originators and manufacturers of the VENTALARM SIGNAL for Household Fuel Oil Tanks, Heavy Oil Tanks, Automobile Tanks, Diesel Locomotives and Diesel Ships — VENTALARM GAUGE — VENTAFIL Portable Vent and Signal — FASFILL Connector — SCULLTROL Pump Protector — THROTLATOR Engine Control — SCULLY SWIVEL — SCULLY SAFETY VENT CAP — FASLITE TORCH — SHURPROOF TESTER — SCULLY ELECTRODE GAUGE KIT — FAYLSAFE Monitoring Systems. (All names in capitals are registered trade marks of the Scully Signal Company.)

SCULLY SIGNAL COMPANY

174 Green Street, Melrose, Mass.

Please forward me full information about the Scully UNIFIL system:

Name_____

Company_____

Address_____

_____

Hose Swivels with EVER-TITE precision

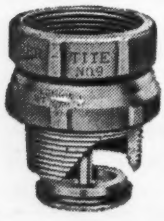
will not pull apart

EVER-TITE No. 2
Straight Thru Swivel

When this new Ever-Tite Swivel is used between the hose and nozzle, kinking and twisting of the hose is eliminated.

Free swivel action at all times—with parts firmly secured. Hose strain is prevented because the swivel assures quick and easy positioning of nozzle.

The Ever-Tite Swivel is always leak-proof because of a specially-designed machined seal and gasket. It is constructed of heavy-duty durable bronze—precision-engineered for typical Ever-Tite performance.



EVER-TITE No. 9 Check Valve Swivel

Ever-Tite No. 9 Swivel has all the features of the No. 2 plus the additional advantage of an inlet check valve. When the pump is shut off, an "O" ring seals against a tapered machined surface and prevents the hose from draining. Spring tension is approximately 1½ p.s.i.

Let these precision Ever-Tite Hose Swivels save wear on your equipment as well as operators' time. Write or phone your distributor.

EVER-TITE COUPLING CO. INC.
254 West 54th Street, New York 19, N. Y.

Booths filling rapidly for Oil Heat Exposition

IN THE ONE MONTH following the first space offering for the 22nd National Oil Heat and Air Conditioning Exposition, to be held in the New York City Coliseum, June 9-12, 1958, over 56% of the main floor was reserved by exhibitors. The Oil Heat Institute of America, Inc., sponsor of the show, chose the main floor because of its large size and because of its square shape making it possible for every booth to handle heavy traffic regardless of location.

Chairman of the OHI Exposition Committee, G. M. Martin, president, Sun-Ray Burner Manufacturing Corp., stated that the group "expect to have a bigger attendance of buyers and specifiers than in 1956" and that "plans to step up promotion and advertising to build larger national coverage are now under way."

Dodge predicts building Contracts rise in 1958

GAINS IN CONSTRUCTION contracts for housing and for government-owned facilities will more than offset prospective declines in contracts for industrial and commercial building in 1958, according to estimates made by the F. W. Dodge Corp., New York City.

In its annual outlook for the construction industry, the Dodge organization estimates that construction contracts in 1958 will total $33,830,000,000, a gain of 5% over the expected 1957 level. The outlook statement points out, however, that a portion of next year's anticipated increase in dollar volume will be accounted for by higher construction costs rather than additional physical volume.

Residential building contracts next year are expected to total $13,760,000,000, up 8% from the 1957 level which is estimated to reach only $12,725,000,000. The estimated physical volume for residential building in 1958 is 1,224,000,000, as against 1,163,000,000 for this year, representing a gain of only 5%.

Increases are estimated for educational buildings, hospitals, and religious buildings.

Sept. residential Contracts show Rise in dollar Volume

RESIDENTIAL BUILDING contracts signed in September, according to F. W. Dodge Corp., New York City, amounted to $1,151,294,000, an increase of 10% over the dollar volume for the like 1956 month.

Increased activity in contracts for one- and two-family houses accounts for a large part of the gain, with special increase in one-family houses.

The total number of dwelling units in September was 86,397, an increase of 7% compared to 1956. Residential contracts for the nine month period at $10,205,058,000 were practically unchanged from a year ago, but the cumulative total of 778,548 dwelling units was 6% below last year.

API awards Certificates to 37 prominent oil Men

THIRTY-SEVEN oil men received certificates of appreciation from the American Petroleum Institute at the group's 37th annual meeting, held November 11-13 at the Conrad Hilton, Palmer House, and Congress Hotels, Chicago, Ill. Certificates were presented in recognition of long or valuable service to the oil industry through the Institute.

Hardwick

Members of API's Division of Marketing to receive awards were W. C. Burns, Hartol Petroleum Corp., New York; Charles Z. Hardwick, Ohio Oil Co., Findlay, O.; and L. T. White, Cities Service Petroleum, Inc., New York.

White

Burns

only GENERAL CONTROLS makes all three!

CONVENTIONAL STACK-MOUNTED PRIMARIES

Field-proved for many years under the Perfex label, these superior stack switches feature the powerful, rigid stainless steel stack element. This exclusive design is unaffected by carbon, requires no air venting. Stack-mounted models available for all applications, including line voltage.

FOR COMPLETE BURNER-MOUNTED PRIMARY

Revolutionary flame-detector, proved **better** in thousands of installations, is simple rugged sensing element installed in blast tube instead of the stack. Close location to flame means faster, more positive response. Unaffected by soot, its **simple design** means **dependability** and **long life.** Prewired to conventional burner-mounted relay, this primary control package offers lower cost installations in the field — Available from most oil burner manufacturers.

TWO-PIECE (SEPARATE STACK ELEMENT)

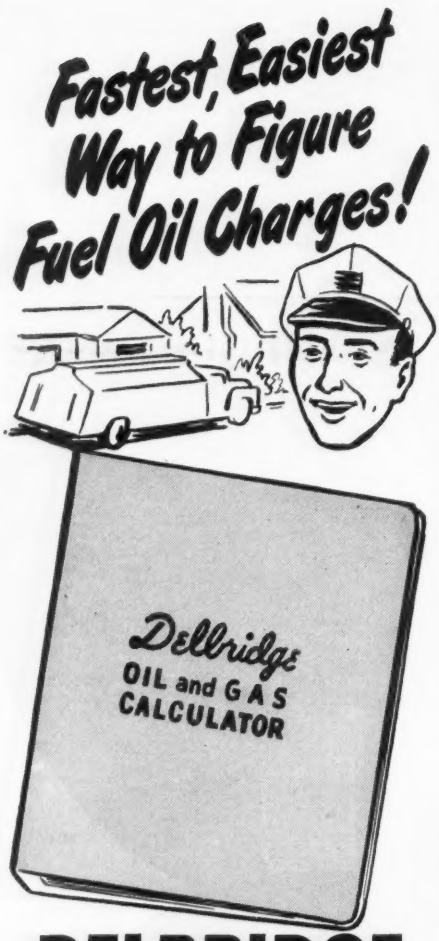
Primary relay is burner-mounted, simplifies wiring to separate stack element. Saves time, reduces cost of burner installation for installers who prefer stack-sensing installation.

Five Plants:
Glendale, California
Burbank, California
Iron Mountain, Michigan
Skokie, Illinois
Guelph, Canada

GENERAL CONTROLS

America's Finest Automatic Controls for Home, Industry, and the Military

Factory Branch Offices Serving *All* Principal Cities of the United States and Canada



DELBRIDGE
Oil & Gas Calculator

Stop figuring fuel oil charges the old-fashioned, long-hand way! No more errors—no more dissatisfied customers!

Figure fuel oil charges fast—easily—accurately—with the DELBRIDGE Oil & Gas Calculator! Total amount of sale is *pre-calculated* for you without laborious long-hand figuring and errors—simple as finding a phone number!

Covers prices from 5¢ to 35¢ per gallon by steps of 1/10¢. Shows gallonage from 1 to 250 gallons by steps of 1 gallon—then to 5,000 gallons in easy steps.

Durable, long-lasting leatherette metal-ring binder. Only 5¼" x 6½"—fits easily in coat pocket. Guaranteed accurate by Lloyd's of London. Only $5.00 each.

Try the DELBRIDGE Oil & Gas Calculator for 10 days . . . *without obligation!* Prove to yourself how it can save time . . . cut down costly errors. Mail coupon for FREE 10-day trial. *Send no money!*

FREE TRIAL COUPON!

DELBRIDGE CALCULATING SYSTEMS, INC.
2502 Sutton Ave., St. Louis 17, Missouri

Send the DELBRIDGE Oil & Gas Calculator ... *without obligation!* We will approve your invoice for $5.00 (plus postage) within 10 days if we decide to keep the Calculator.

Name.....Title.....

Company.....

Address.....

City.....Zone...State.....

Better Heating-Cooling Council meets; elects White President

JOHN H. WHITE was elected president and a director of the Better Heating-Cooling Council for the 1957-58 term. The election took place on October 30, Hotel One Fifth Avenue, New York, N. Y., at the group's second annual meeting. White is president of Taco Heaters, Inc., Cranston, R. I.

The new president takes the place of retiring president John E. Reed, secretary, The H. B. Smith Co., Inc., Westfield, Mass.

Elected to serve as vice presidents of the BHC were Gordon J. Andrew, president, Central Supply Association, Chicago, Ill., and W. A. Burbine, Crane Co., Chicago, Ill. Mr. Andrew is also president of the W. T. Andrew Co., Detroit, Mich. He will represent the CSA on the BHC's board. BHC's membership is made up of leading manufacturers and wholesaler and contractor groups active in the hydronic field.

The new board of directors, also elected during the two-day meeting, includes White, Reed, Andrew, Burbine, Paul K. Addams, Fitzgibbons Boiler Co., New York, N. Y.; T. L. Arnold, Fedders-Quigan, Maspeth, N. Y.; Carroll M. Baumgardner, National-U. S. Radiator Corp., Johnstown, Pa.; Owen Desmond, Modine Manufacturing Co., Racine, Wis.; Virgil A. Good, Burnham Corp., Irvington, N. Y.; James H. Legg, Federal Boiler Co., Midland Park, N. J.; Milton Lundgren, Vulcan Radiator Co., Hartford, Conn.; Marvin E. Mitchell, Weil-McLain Co., Michigan City, Ind.; R. Edwin Moore, Bell & Gossett Co., Morton Grove, Ill.; Daniel J. Quinn, American-Standard, New York, N. Y.; Alfred Whittell, Jr., Raypak Co., El Monte, Calif. and Warren Webster, Warren Webster & Co., Camden, N. J.

Retiring Better Heating-Cooling Council president John E. Reed predicted a sales increase in the hot water heating industry in the 1960's because of the groundwork now being laid through large scale preparation and promotion by the industry.

Reed, president of Sterling Radiator Co., Inc., Westfield, Mass., observed that though housing sales are expected to be down about 11% for 1957, sales of baseboard radiators of all types have dropped only about half that amount, 5.7%, during the first seven months of 1957.

"We are undergoing a rolling readjustment," he said. But because of the concentration of the hydronics industry on sales problems, he felt that a bigger share of the market could be expected in the next decade. Such concentration, he declared, is reflected in

Officials of national and Cleveland Better Heating-Cooling Councils discuss local level promotion. Left to right: Franklin Greene, executive director; Walter Lige, Cleveland Chapter president; John E. Reed, former president BHC; Keith Klotz, Cleveland, vice-president and R. J. Cleary, Cleveland director.

the Council's far-ranging, comprehensive program which will help assure an "extremely bright" business future.

The two-day meeting of the Council, whose membership is made up of manufacturers, wholesalers and dealers, also heard two "outside the industry" speakers probe deep into the factors affecting sales of hydronics (the science of heating and cooling with water).

Irving Gilman, vice-president of Institute for Motivational Research, Inc., pulled no punches when he emphasized the need for the industry to establish a "psychological franchise," and a "dynamic industry personality," to insure an increasing market for its products.

Sherman Rogers, copy chief, Anderson & Cairns, Inc., picked up where Gilman left off, and stressed the challenge of modern advertising as it should be applied to the hydronics field. The industry has to learn that advertising nowadays has to be aimed at "what your market wants to hear, not what you want to say."

Housing Congress

The business meeting, attended by representatives of each of the Council's member companies, also heard an up-to-the-minute report by John C. Adams, American-Standard, on the recent Women's Housing Congress, held in Washington, D. C., Oct. 10.

BHC was a prime organizer of the Congress and one of five trade associations that sponsored the event which drew 100 women from 45 states.

"We tried to find out, first, what women really thought about heating and its contribution to the family's welfare, and, second, what they liked and disliked about the heating systems they had in their houses," said Adams.

The results, he noted, were extremely informative and valuable to the industry. The housewives declared heat was "extremely important" to family harmony, comfort and health.

Council members also heard the BHC 1957-58 programs outlined, with special emphasis placed on the Cleveland Better Heating-Cooling Council. Three officers of the new group (the first local branch of the national organization), Walter Lige, president, Keith Clotz, vice president, and R. J. Cleary, director, gave a first-hand report on the progress of the community promotion organization. The Cleveland Council numbers approximately 90 members—dealers, wholesalers and manufacturers' representatives—and is entirely self supporting.

Task Force chairmen of various BHC projects outlined the progress and plans to date of their developments. The new color cartoon movie was expected to be ready in December, after which time showings in 1958 on 300 TV stations would be scheduled. The consumer booklet "Heart of the House," with an initial press run of 25,000 copies, was nearly exhausted, it was pointed out. It was agreed that another 20,000 copies would be needed to fulfill the homeowner demand.

Other reports included the BHC builder program, the yearly editorial conference, and a summary of the over-all program by John H. White.

Small Business Loans show record Increase over 1956

SEVERAL FUELOIL dealers were among the many to benefit from an increase in loan approvals by the Small Business Administration during September, 1957. As compared with September, 1956 loans increased 35% in number and 76% in dollar amount.

During September, 1957, the Small Business Administration approved 271 loans totaling $13,275,000 to aid small firms, as compared with 201 loan approvals for $7,531,000 during the same month a year ago. Loan approvals were sharply above the August, 1957 total of 187 approvals for $7,014,000, and below only the peak month of December 1956, when 345 loans totaling $18,154,000 were approved.

154 disaster loans totaling $1,156,000 were also approved this September.

Largest of the business loans approved in September was one for $275,000.

During the four years in which the Small Business Administration's financial assistance program has been in operation, the agency has approved 7,856 business aid loans totaling $361,298,000, plus 6,749 disaster loans totaling $69,960,000.

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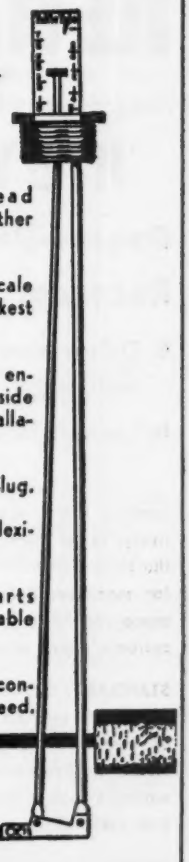

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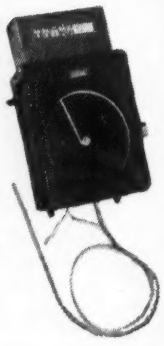

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Bendix succeeds Owens as Head of Old Timers

JIM OWENS, after a long and devoted tenure, has retired as national chairman of the Old Timers' Club of the Oil Burner Industry. Charlie Bendix, Chicago, succeeds him, elected after a mail poll of members. Chuck Lang, Rockford, Ill., was named vice-chairman.

H. A. Maccubbin, Villa Park, Ill., continues as secretary and E. N. McDonnell, Chicago, has agreed to serve another term as treasurer.

Chairman Bendix reveals that the first order of business is to proceed with plans and arrangements for the 1958 annual jamboree to take place in New York during the oilheating show at the Coliseum during the week of June 9. Also, he explained that his term of office has been set for three years, effective January 1. This represents a change in the organization's by-laws, which also now specify that the vice-chairman automatically succeeds the outgoing chairman.

National OHI board to meet in January, in Milwaukee

THE BOARD OF DIRECTORS of the Oil Heat Institute of America, Inc., will meet January 15-17 at the Pfister Hotel, Milwaukee, Wis.

The first day of the meeting will feature a dealer-management panel to be moderated by Fred Heaney, chairman, Distribution Div., Oil Heat Institute of America. Speakers on the panel will be Everett Elliott, Danvers, Mass., whose topic is "Developing oil-heating Business by direct Mail"; Bob Young, Waterloo, Iowa, who will discuss "Jobber Problems in fueloil Distribution"; Pat Caputo, Hicksville, N. Y., to talk on "Selling oilfired water Heaters"; D. Cramer, Flint, Mich., whose topic is "The heating and air-conditioning Contractor in Oilheating"; and Herb Spade, Hartsdale, N. Y., to cover "Twenty Years of gas Competition."

The following two days will be devoted to division section, committee, and board meetings.

Reporting additional members of the Oil-Heat Institute of America board of directors in the November issue, the two members named from the Distribution Division were omitted inadvertently. They are: William F. Kenny, Meenan Oil Co., Levittown, Pa. and R. A. Young, Young Coal Co., Waterloo, Ia. One of the fifteen seats to which the Division is entitled was left open for the North Central Region.

The new board of directors for the Institute now consists of 61 members: 31 members from the Manufacturer's Division; 15 each from the Accessory and Distribution Divisions.

R. P. Gilmartin, chairman, Technical Division, Oil-Heat Institute of America, Inc., New York 20, N. Y., has called a meeting of the Division on December 11 in Pittsburgh's Penn-Sheraton Hotel.

Agenda will include: Completion of plans for the technical symposium to be held next June in New York during the oilheating show; development of technical information for use in the OHI public relations program; planning proposed fueloil strip film; discussion of the OHI label plan; reports on project committee work.

Plans released for Chicago Home Builders' convention

THE 14TH ANNUAL Convention and Exposition of the National Association of Home Builders will be held January 19-23 at the Conrad Hilton and Sheraton Hotels and the Chicago Coliseum, Chicago, Ill. The group expects a record-breaking show with representatives of allied industries joining the builders to fill over 750 exhibit booths. In an effort to eliminate conflicting sessions at the convention the number of meetings customarily held has been reduced.

On Monday, January 20, an all-day short course in merchandising will kick-off a series of meetings on marketing and selling. An interesting feature of the program is a session entitled "Cost Saving Ideas," at which ten industry leaders will present their tested ideas for saving $100 per house. Other sessions and demonstrations will be keyed to the "how-to-use-it" and "how-to-do-it" themes.

fueloil & oilheat

SUMMARY

Quality Builders use oil Heat

Making Oilheating even more acceptable goes with builder Merchandising

by William J. Stein

DID YOU EVER boil water in a tea kettle and, at the same time, put a plug in the spout? The inevitable will happen. The tea kettle will blow its lid. So it is with the fueloil business. The widest channel for expansion and the most direct avenue for growth is the area of new construction. Unless this area is properly developed, the fueloil business will become very much like the unvented boiling tea kettle.

This is not a matter for only individual concern, it covers everyone. The acceptance of oil for heating lies in the buying habits which are built on attitudes and opinions of the homeowners and builders. Frequently, these attitudes are constructed on an interpretation of the facts rather than on the bare facts.

What are the implications for the fueloil dealer; and what have some been doing about it? Fueloil dealers, generally, are aware of the situation. The progressive dealers are doing something about it.

In order to have fueloil get its share of heating installations in new homes several basic concepts must be developed and, most important, be maintained among builders and prospective homeowners. These are the well recognized concepts of cleanliness, efficiency, modernness, dependability, safety, superior personalized service, lower maintenance and operating costs and purchasing from a local dealer.

What means have dealers used to effect this program? The builder, other than being directly influenced, usually was affected more strongly by the will of his customers. In some areas where a gas-heat installation cost less, most builders were using oil-heat. The critical element, as stated by a number of these builders, was that they had to cater to their customers' demands regardless of their personal desires. In these cases it was a matter of weighing the relative advantages of paying somewhat more to start with or to forfeit a margin of profit during the selling phase.

The desires of prospective homeowners for fuel types, even though they are being tangibly expressed, are not absolute and invariable. Just as fashions in dress, automobiles and homes change so can the desire for a fuel change. The concept of modernness need not necessarily be linked to efficiency or built on facts; it may be related to newness or recency, volume of usage, or what the neighbor has, or is about to buy. The common expression is: That is what they are using now. Who is they? They are the anonymous characters built up by advertising acceptance and actual usage. This has significance in fuel insofar as it is also of importance as to what the anonymous "they" are now using.

If oil is accepted as a modern fuel and proves itself, then its use will continue to grow. If another fuel gets that reputation then, not only will the new home go to that fuel, but so will the conversion and replacement market. In other words, all phases of the industry are linked together. They either rise or decline at the same time.

Many dealers, aware of these conditions, have embarked on progressive campaigns to indoctrinate the public, especially the present and future homeowners, in the advantages of oil for heating. The channels of communication are through such media as newspapers, magazines, billboards, radio, television and word of mouth. Thus dealers who are close to the pulse of their business certify to the value of such programs. This advertising is done on either an individual or institutional basis. The cumulative effect is felt over the years.

When advertising on an individual basis a number of dealers suggested that an association be made with products that were nationally recognized. For example, the use of nationally known name brands should be used in such copy. The effect of the association created a more lasting impression on the public. It also had the desired effect of establishing the advertiser as a reputable and prominent dealer.

The cost of continuous advertising

Eleven articles during the past year or so by William J. Stein have emphasized the oilheating dealer's place in the new home field. They have told how individual organizations make sales to builders, offering the advantages of their combined responsibility for the oilheating equipment, fueloil and burner service. Here Mr. Stein wraps up the package with a summarization of impressions gained from his visits to each of the dealers covered in the series. He presents a sensible suggestion that it's necessary for fueloil-oilheating dealers to make everyone aware—particularly their own customers—how comforting it is to have oilheating. In other words, make the product even more acceptable and new home buyers almost automatically will look for it and ask for it.

is usually high. Hence, group efforts, in the form of local associations, form an effective vehicle. Such groups also have the desired effect of presenting a uniform front in a program that requires a continuous and concentrated effort. Results of such association work are visible wherever they exist.

In addition to the more general forms of public relations, efforts have been made to advertise specific housing projects and builders who have been using oilheating. To the builder this represents additional publicity. To the fueloil industry it places another point on their score for recognition. The anonymous "they" takes definite shape in the form of reputable builders. Such displays create the thought among buyers that if recognized builders use oilheating, then it is the preferred fuel.

The dealers' and industry's public relations program has several other facets. Every dealer's delivery and service truck is a reflection on the industry. The concept of cleanliness of oilheating bears on this point. Repeatedly, dealers have stated that clean trucks, uniformed personnel, clean deliveries and servicing are the practices that carry the message of cleanliness.

Public Relations

Individual firms, especially in smaller communities, have found a monthly newsletter, mailed with the bill, an effective method to get a personal message to customers. One dealer stated that he found an excellent market among his regular customers. These customers can be reached by newsletter to convey sales messages related to special services, such as replacement needs, oil domestic hot water heating and airconditioning.

A periodic personal visit to all regular customers by a customer relations man has also been found useful. His purpose is to visit and chat with these customers about their heating and service problems. He helps keep the customer satisfied and looks into possibilities for new sales leads. The idea of keeping as many oil users as possible satisfied has the effect of spreading the desire for oilheating by word of mouth advertising. Also, a satisfied oil user, when buying a new home, will again ask for oil heat. Thus, numbers are added to those who will directly urge builders to continue using oil heat.

The consensus of opinion among oil dealers is that their service must be as nearly perfect as possible. Certainly, it must be better than the service offered by distributors of competitive fuels. Equally important, is the idea that not only must the service be good, but that present and possible future customers should constantly be reminded of this fact.

Service Aspects

There are two facets to service. First, there is its importance to the customer. Here it serves to verify the painlessness of oilheating and helps spread this concept to prospective homeowners. Second, it has the effect of solving many problems for the builder. Several builders have expressed themselves directly on this point. When working with a dealer who provides good service in installations and repairs, the builder finds that he has greater flexibility in his construction work. This is easily translated into dollars. More important, he is relieved of a customer service problem which can reflect on his reputation, future business and, certainly, upon his time and energy. These are important considerations to any busy builder.

Most dealers are keenly aware of the importance of the service aspect. They have gone to great lengths to build fine fleets of trucks, equip them with two way radios and educate their personnel in the latest servicing techniques and customer relations methods. An important point must not be overlooked. In addition to providing these services, these customers and the public must be constantly made aware.

Dealers stated that the difference of installation costs was a prime reason for builders to use gas heat in new homes. Coupled with this were a number of added incentives that local utilities had to offer builders and heating contractors. Whereas, this has slowed down the growth of oilheating in some areas, dealers have still been successful in getting oil heat into new homes.

These dealers recognized one basic fact; namely, their primary business is selling fueloil. All other aspects of their business either supplement or support this effort. With some dealers oilburner and heating installations that bring new fueloil accounts are considered part of their selling cost. At best, some dealers said, they net very little on an oilheating installation where there is a good prospect for an oil account. A few volume dealers indicated that, whereas, their individual profits are very low, their gross profits are significant, especially when they considered the profits on their growing fueloil business.

Although many dealers felt that their installation work and burner service were not profitable, they represented an integral part of the cost of operating a fueloil business. To compete with the lower cost of gas heat installation, dealers have resorted to various techniques. One dealer became engaged in complete plumbing and heating installations. Thus, the difference in the cost of burner and tank units was absorbed in the greater over-all figure.

Related Factors

The cost of the firing element in the heating system cannot be considered alone. Other related facets in the builder's costs must be taken into account. The careful builder thinks of some of the following factors:

1. His own cost of operation during construction.
2. The cost involved in possible delays in selling the home.
3. The costs involved in construction delays caused by the necessity for waiting for gas mains to be laid to the buildings.
4. The costs involved in the delays caused by the builder having to adjust his work to the pace and rigid plan of a utility as compared with a more flexible and more accommodating plans of a dealer who can work more closely with the varying schedule of a builder's needs.
5. The costs involved in terms of time and energy and hired labor and equipment to satisfy individual minor complaints and adjustments which are normally handled by a dealer's service department.

(*Please turn to page* 108)

Sparky services cooling Controls

"Volts and Amps mean more in Cooling than in Heating," says World's best Serviceman

by J. W. Schulz

"GOOD AT SERVICING oilheating equipment, a man can easily become good at servicing airconditioning equipment," said Sparky, who describes himself as the world's best serviceman.

Arriving at the shop owned by the fueloil company Sparky works for, I had found him fooling around again with oilburner ignition transformers, his sport. He got his name Sparky from such fooling around, and from his fascination for electric sparks.

"Tell your readers of FUFLOIL & OIL HEAT that volts and amps mean much more in cooling equipment than in oilheating equipment," Sparky instructed me without looking up. "I've got three 15,000-volt ignition transformers here, made for wall-flame vertical rotary burners."

Why Important

I said the readers would want to know exactly why the volts and amps mean more in heating than in cooling.

Sparky went on, still looking down at his three transformers, "Because in oilheating, things are lightly loaded electrically. Line-voltage wires that can carry up to 15 amps give current to a gun-type burner motor that draws less than two amps running normally. The burner motor is loaded lightly, for it usually can do three or four times the amount of work it has to do driving the burner's little oil pump and blower.

"I've unhooked the secondary midpoint grounds of these transformers," he added, "and my idea is to connect their primaries in parallel, and connect their secondaries in series. That oughta make one great, big spark!"

I warned him to be careful so that he wouldn't get a bad shock.

"Shucks a shock from these transformers!" he exclaimed. "That wouldn't be too bad. The primaries can take in just so much current, as maximum. That puts a limit on the output of the secondaries.

"But last week I nearly got killed by electric shock on a job having a 15-ton airconditioning compressor—or it felt like I was getting killed."

How'd that happen? I asked.

"The crazy owner phoned earlier in the day that fuses were blowing on this restaurant job. I pulled the main switch outside the equipment room, and unhooked the motor wires—compressor motor wires, that is.

"Accidentally, I touch two wires together. Bang! Lightning hits the place! All the lights go out! Picking myself off the floor, I lights a match and sees the two wires welded together like an expert welder worked on them. I says to myself it looks like 100-amps went through those 220-volt wires. But how could it, with fuses in the main switch to limit the current?

"In a few minutes, I finds out the owner had noticed the airconditioner main switch open. He closed it, figuring I wasn't on the job yet because he'd phoned for me only 15 minutes before. And I had no fuse protection at the wires I touched together—none in the building anyhow.

"The crazy owner had trouble for a week with fuses blowing in the fused main switch serving the compressor motor, so he shunted those fuses with heavy wires. That caused his main fuses, at the meter, to blow out. So he shunted them also using heavy wire.

"Accidentally, I touch two wires together. Bang! Lightning hits the place! All the lights go out! Picking myself off the floor, I lights a match and sees two wires welded together like an expert welder worked on them. It looks like 100-amps went through those wires."

"My touching together those live motor-feed wires, with the compressor starter blocked in the way I fastened it for testing, put the lights out in half the business district of the town! It took lighting company men two hours to repair things and get the juice back in that part of town.

"What about the overload protectors of the motor starter?" I asked.

Watch the Civilians

"Crazy owner had shunted the heaters two weeks earlier," Sparky muttered, "He sure is great at shunting out things that stop his airconditioner. Last year he shunted his refrigeration high-side control. That burned out his 15-horsepower motor. He's the kind of guy that you can't tell to stop fooling around with things he shouldn't touch. He knows just enough to gum things up thoroughly. One thing about him, he's glad to pay for any damage he does, just so long as I act as though I don't know his monkeying caused the damage. Seems he and I silently made a gentleman's agreement about that.

"If I can produce a 45,000-volt spark using these three transformers," Sparky went on, "Guess I ought to use ignition wire with insulation about half an inch thick. Wish I had some wire like that right now."

You were saying a minute ago that things are lightly loaded in oilheating systems—electrical things like the burner of a gun burner and the two wires that give current to the motor, I reminded Sparky.

"It's just the opposite in the wiring of airconditioning set-ups," he went on. "In them, you find a No. 14 wire carrying 12 or 13 amps, whereas you figure 15 amps is the maximum for the wire. Instead of being on a vacation doing its normal work, like an oilburner motor, the motor driving an aircon-

ditioner compressor is doing every bit of work it can. Increase the load of a compressor motor by 10% on a hot day, and its overload protectors stop it because otherwise it would burn up.

"The polarity of these three ignition transformers is a big problem. Their primaries got to work together, and so do their secondaries. One of the windings must not buck any of the other two it's supposed to work with."

True, I observed, heavy amperage is a characteristic of motor circuits on airconditioning jobs.

"Yep, amps are important there," Sparky continued. "Wires are not greatly oversize, as in oilburner set-ups, for the amperage they handle. Often, to find out if an airconditioner compressor motor is all right and properly protected against overloading, you've got to use an ammeter. Often you need an ammeter to locate trouble."

High amperage causes voltage drops in some cases, I observed.

"Yep, I said volts and amps both are important," Sparky reminded me. "In an airconditioner circuit, a loose connection or an undersize wire in a long run, often drops the voltage enough to raise the devil with a motor producing practically 100% of its rated horsepower.

Use Voltmeter

"You've got lots of use for a voltmeter when you're starting up or servicing an airconditiong installation.

"Notice, even though I disconnected their secondary mid-point grounds, that I've got the cases of these three transformers set up on glass jars to insulate them from ground and from each other," he said cautiously keeping his fingers a foot from each transformer he pointed at.

I asked if Sparky works on many jobs having 15-ton compressors.

"Half a dozen or so," he replied. "On the importance of voltage: In oilburner work, even commercial-industrial work, ordinarily a difference of a few volts in line-voltage doesn't bother you. That's not true in airconditioning. We were planning on installing two units, each having a two-wire, two-horsepower motor—single-phase, that is, for these two compressor motors. We had to find out if the current on the job was 208 volts or 230 volts, for in airconditioning that makes the difference between satisfactory performance and wrecking the compressor motors. Laying out an oilburner installation, you don't have to worry like that about a difference of a few volts.

"Yep, oilburner motors take it easy, but airconditioning compressor motors handle as much load as they can. Increase the maximum load on a compressor motor by just 15%, and you invite trouble. Drop its line voltage 15%, and you ask for trouble.

"Of course," Sparky said cautiously, "I worry about the fact that this transformer set-up may develop 45,000 volts, but each transformer was designed for maximum voltage difference, electrode to ground, of only 7,500 volts."

Oilburner motors seldom are damaged by overloading, I observed.

Read amperage Input

"One of the most important points in starting up and servicing airconditioning installations is to read the amperage input to each motor, as the first step," said Sparky. "Second, compare your reading with the rated or maximum amperage stamped on the motor's nameplate. Third, look at your overload protection device, and make certain it's of the correct amperage.

"Just for instance," he went on, "On one of my jobs we tried to speed up a two-horsepower motor about one-sixth to get more air from the blower it was driving. During the next week, that motor kicked off its overload protector a dozen times. The one-sixth speed-up was enough to overload that motor.

"Our electrician felt the motor running that way, driving its air-handling blower one-sixth faster than design speed, and he decided the motor wasn't running too hot. So he kept it running that way, and switched to overload-protection heaters of the next higher amperage rating. The next day the motor burned out."

After a few minutes of silence while he worked on the wiring of his three ignition transformers, Sparky suddenly exclaimed, "I just got a new idea that I'm not telling even you. In a second, I'll turn the juice on here. You'll see the most gorgeous spark you ever saw in your life, outside of lightning!"

I edged towards the door when I saw Sparky reaching to turn on a knife switch. The next thing I knew, I was on the floor outside the room. Looking back in, I saw nothing but smoke.

"Are you alive?" I called to Sparky.

After an awfully long wait, Sparky came crawling out of the room. He said, "Just barely."

His last idea had been too much, he thought. His inspiration, which he had kept a secret from me, had been to give the three transformers not 115-volt input current, but 230-volt current.

"Just think," he gasped, "that time I was aiming for 90,000 volts! But when I closed the switch a spark shot up about a foot in the air and hit the electric light fixture over my head. That's on a different circuit from the one I was using to get the 230 volts. With sparks flying all over the place, the lighting fixture came down and hit me on the head. I knocked over a can of fueloil that was on the bench, and it caught fire, so I sat on the bench to put the fire out. I hope the hair grows back soon on my head."

Still best Serviceman

After replacing the fuses he had burned out and clearing off his work bench, Sparky had some serious words.

"Don't think that bit of a mess I just made takes away from my ability as a serviceman," he started out. "As I always say, I am not too much impressed by my being the world's best serviceman. There's just got to be such a man, and it happens to be me."

Coming back to the matter of year-round airconditioning installations and their controls, I asked Sparky if he has any difficulty understanding and working on the wiring of year-round jobs.

"Even I had a bit of trouble with that at first," he admitted.

"Take this one job with a cabinet full of relays," Sparky explained, "When I first saw it, I was ready to give up. I was certain more relays were in the cabinet than the job could possibly need, though the control set-

up was tailor-made for the job by a control manufacturer.

"One relay served the blower used to handle the air circulated through the rooms. Another was connected to a damper motor which set things up for higher circulated cfm in summer than in winter. Then there was an outside-air damper motor. Two relays served two refrigeration compressors—two-stage cooling. The blower that cooled the condenser was started and stopped by still another relay. And a relay snapped in to start the oilburner when heat was needed."

Sparky used two procedures, he revealed, to end his fear of the complications of this installation.

Study Diagram

First, he sat down at night with a copy of the manufacturer's wiring diagram of the equipment, and with pencils of about 20 different colors, he said. On a large piece of drawing paper, he made his own wiring diagram. But in it, each relay circuit was drawn with a different color.

"Knocking off the oilburner control circuit in red was a cinch to start out," he said. "I made the input wiring of one compressor motor in yellow, and the wiring of the other in blue. The room-thermostat wiring, though heating-and-cooling and two-stage for the cooling, was a cinch also when taken by itself."

A man should decide to give about eight hours to studying such a complicated wiring diagram, Sparky declares. He'll probably lick the problem in four hours, then, and enjoy himself toying with it for the next four hours.

"Make no mistake about this," Sparky emphasized, "any man can learn about complicated wiring diagrams. But there's no substitute for hours and hours of study. Using the different colored pencils, I've made a wiring diagram over up to ten times, and then I knew the whole thing by memory."

The second part of Sparky's procedure for understanding completely the many-relay control set-up was two hours spent toying with it on the job.

He pressed in the relays, one at a time, to determine which did what. At the same time, he made a diagram showing all the relays, and as he did his relay pressing he made notes on which relay controlled which motor, damper, etc. Interlocks were found—pressing in one relay caused another to snap in. To find out which relay contacts did the interlocking tricks, he inserted a strip of paper between one set of relay contacts before he pressed in the relay. That one set of contacts could not complete its circuit, then, when he pressed in the relay. That testing procedure taught him the function of every set of relay contacts in the control panel.

Shunting control circuits at the panel is another good way, Sparky says, for a man to familiarize himself with all the actions of a control set-up.

If you don't want to blow fuses doing your shunting of control circuits, don't use just a piece of wire to do the shunting. Instead, use the two wires of a pigtail electric-light socket, and in the socket have a 100-watt light bulb. If you connect this shunt across line voltage by mistake, the 100-watt bulb will light up. A fuse won't blow, as it would if you used a wire to do the shunting.

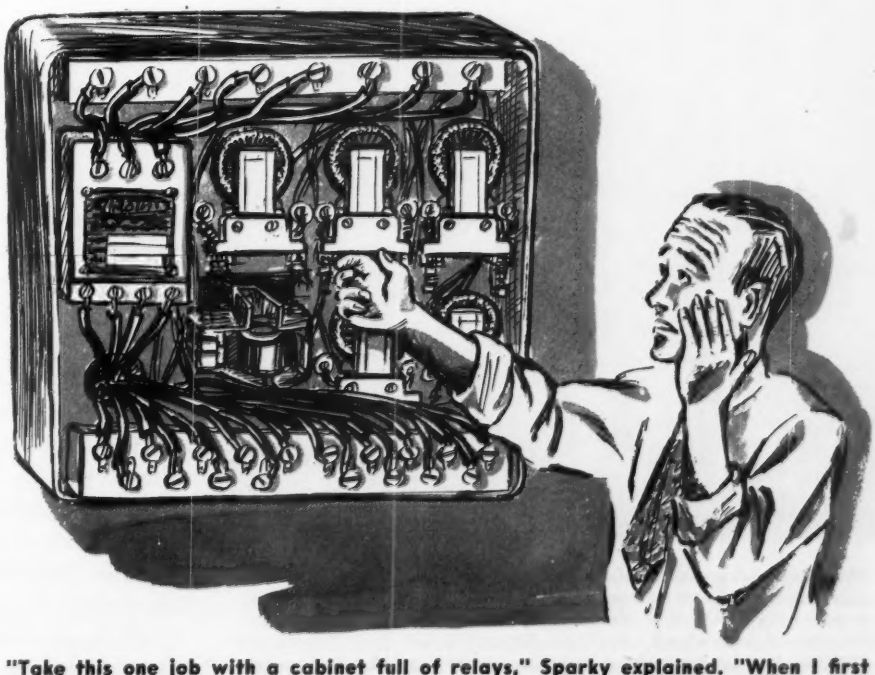
To avoid blowing out a light bulb by inadvertently connecting it across 230 volts, make up the shunt of two pigtail sockets connected in series, and put a 100-watt, 115-volt light bulb in each.

A snap-around combination voltmeter-ammeter is invaluable studying the control system of an airconditioning system, just as such an instrument is invaluable for start-up and trouble-shooting maneuvers. For studying, use the snap-around ammeter to find out the amperage of different wires with the cooling system working, for example. You'll quickly find out, for example, which set of wires provide electricity for the biggest motors on the job, for these wires will be carrying the highest amperage.

"Servicing the refrigeration equipment of domestic airconditioning set-ups, you've got to be more precise than you have to be with oilburners.

"Take the matter of little leaks in pipe lines. On a domestic oilburner job, you really should not have the slightest leak in an oil line or a fitting or specialty. But a bit of a leak that lets three drops of oil escape from a fuel unit pipe plug or fitting every week won't cause a breakdown, or quite a bad air leak in a suction line serving a two-stage fuel unit won't cause oilburner trouble.

"But the same kind of a slight leak as I've just described, in refrigeration lines a contractor installs on an air-conditioning job, will permit the refrigerant to escape in a matter of days or weeks, and will cause a complete breakdown of the cooling system."



"Take this one job with a cabinet full of relays," Sparky explained. "When I first saw it, I was ready to give up." He used two procedures, spelled out in this article, to end his fear of the complications of this many-relay installation.

Representatives of more than 115 women's organizations boarded busses at Baltimore's Memorial Stadium. The ladies were taken to the Sheraton-Belvedere ballroom where Charles A. Newland, Division Manager of Esso Standard Oil Co., and luncheon host, addressed them briefly. The group was so large that both of the hotel's main dining rooms were required to accommodate the party at the luncheon.

Baltimore tells i o (

"WHAT women's convention is this?" thought the doorman of Baltimore's Sheraton-Belvedere Hotel a few Mondays ago when not one, not two, not three, nor four, but ten large yellow busses pulled up at the hotel marquee and discharged their passenger load, 406 Baltimore women from 115 organizations.

It wasn't a convention, though. It was the Oil Heat Association of Maryland opening Oil Progress Week by playing host to one of the most diversified cross sections of Baltimore housewives ever assembled.

It all started this way.

Searching for an activity that would present an opportunity for the fueloil dealer to tell his Oil Progress Week story to someone other than himself, the idea of an Oil Progress Week women's tour was born.

Plans were made to take a group of 50 or 60 women to see Esso's huge bulk terminal facilities in southeast Baltimore, thought to be the largest bulk storage plant in the world. Esso agreed to serve luncheon to the group at the plant cafeteria, and the guests would then depart for a visit to another part of the city to view an exhibition house known as WBAL'S HOME BEAUTIFUL.

The house contains the latest equipment throughout including a new oilfired combination heating and airconditioning unit.

It was decided to limit the reservations to a maximum of four women from any one organization to insure diversification. Still, it was a big question mark whether enough women would respond to fill two busses.

There was no need for worry on that score. The invitations were mailed on the Monday preceding the tour, and the first return mail brought 88 reservations.

ells i o (Mrs.) Sweeney

Something big was in the making; something that could conceivably get out of hand. A hurried call to Esso brought an assurance that this was public relations par excellence and not to worry—Esso would take care of the luncheon and, because of the crowd, switch it to the Sheraton-Belvedere Hotel, and for the Oil Heat Association to keep on accepting reservations, even if it grew to two or three hundred! Little did they suspect. By the end of Friday, the cut-off date, there were 406 reservations from 115 organizations. The Association prepared for Monday's feminine onslaught.

Baltimore's Memorial Stadium was the point of departure. Here the women boarded the busses, each of which had a representative of an oil company or dealer aboard to act as host and to answer questions.

The first stop was the hotel, where the group assembled in the ballroom and were shown the Oil Progress Week film and the magic suitcase. After this, John R. Sherwood, Manager of Sinclair Oil's Sherwood Division, spoke to the assemblage on the importance and significance of the oil heating industry. Next Standard Oil's Charles A. Newland, Division Manager, addressed the group briefly. Then down to the hotel's two dining rooms for luncheon.

Everything went off without a hitch: the plant tour at Esso ran like clockwork and the visit to the Home Beautiful brought forth many oh's and ah's from the ladies, and a number of questions about the oil burning unit.

Many who have been associated with Oil Progress Week since its inauguration dub this activity the most significant in their recollection. Certain it is that the heating end of the industry took a leading role in the OPW activities in Baltimore this year.

Busses took the club women to Esso's bulkplant (upper left) where groups of thirty women at a time toured the storage facility. Acting as industry spokesman, John R. Sherwood, Sinclair Oil Division Manager (upper right), spoke to the group before the luncheon. Final stop on the tour was WBAL's Home Beautiful (above) where visitors saw the latest in contemporary living airconditioned with an oilfired unit.

Keep 'Em on Contract

Some Suggestions for improving service contract Plans to keep Customers sold

The following article is a condensation of remarks addressed to members of the Oil-Heat Institute of Greater Washington by A. Graham Shields, managing director, in a recent OHI *Bulletin with the purpose of improving present service contracts in order to convince oil heat users they are using the best method of heating available.*

THE "PROMOTION PROGRAM" to which most of you have contributed dollars . . . is aimed at the present users of oil heat in an attempt to convince them they are using the best method of heating, and with the objective of controlling the replacement business to maintain our gallonage. This being the case, the opinion has been expressed that service contracts or plans can have a good or bad effect on that objective. In studying our present plans, certain suggestions have been made, aimed at improving customer relations. In that I find myself in agreement in principle with these suggestions; I am presenting them with my comments which may help to answer some of the questions that come to mind.

With the exception of two major oil companies all of contracts or agreements in the Washington market expire each year on May 31. This method of sending new contracts involves printing new forms each year at substantial cost and requiring customers, many of whom we have had under contract for some years, to go through the process of signing a return card, which is a negative action at best, as indicated by the delays in getting these acceptances returned.

These delays cause us to annoy the customer further with phone calls, letters or contracts in attempts to get him to sign up which is not good merchandising. In addition, summer inspections on those contracts are delayed, interfering with the orderly scheduling of the summer clean-up work.

All of this adds up to not only a jamming up of summer clean-ups late in the fall, but these annoyances may influence some customers in their decisions to remain with oil or go to gas. The replacement market is the one we must control.

The following plans are presented to overcome these objections:

Suggestion 1:

1. Printing of contracts or agreements with a self-renewing or automatic renewal clause, to be designated as renewable one year from date of acceptance.

2. Providing a 30-day prior to renewal date cancellation clause for either party.

3. Cancellation during contract by customer to provide for rebating on a pro-rated risk basis.

4. Send bill with a letter each year, six weeks prior to renewal date. Letter to express thanks for previous year's business and call attention to renewal date. After cancellation date has passed with no word from customer proceed with your work plans just as you now do when you receive the acceptance card from the customer on your present contract form, only in this case there will be no delay.

5. The first year under this plan should develop a pattern not much different than your present one except that the renewal dates for the next year will be one year from the date you receive the acceptance of the original agreement, instead of all expiring on May 31 each year as is the case now. As time goes on, your renewal dates will be further staggered by the addition of new accounts during the year. . . .

Advantages to the Customer:

1. Elimination of the annoyances indicated above, thereby improving customer relations.

2. Service as well as oil then becomes entirely automatic. . . .

Advantages to the Company:

1. Except for the printing in the first year of a sufficient quantity of agreements to supply your present customer's plus the quantity necessary to have a stock for new accounts during the year, the expense of printing is eliminated except when stocks run out or a change is needed in the agreement, a saving of many thousands of dollars for the industry each year.

2. Clean up and overhaul work may be scheduled for convenience.

3. It should mean more money to work with because in many cases the renewal will be collected before any work is done.

4. Office work load after the first year should be lighter because renewal dates are spread rather than all on one date.

5. An orderly schedule for clean-up and overhaul can be set up well in advance, providing a better indication of employment requirements.

Because of planning possible under this system, it is possible that fewer servicemen would be required to do the same work. A scheduling of clean-up work might be set up as follows:

(a) Renewals with dates after November 1 could be cleaned either during a warm spell when service is not busy, or in February or March when things taper off.

(b) All clean-ups could be done between March 1 and November 1 if desired. All the work could be done in the summer months with the added advantage of allowing the scheduling of large work loads as early in the spring as wished.

Suggestion 2:

Promote a budget or convenient payment plan for oil and service. Some companies are now doing so, but many just indicate that a plan is available and ask the customer to inquire if they are interested. It is recommended that the plan be described in detail either in the agreement, or in an accompanying letter so that a customer will not have to go through the action of having to ask for the information but can examine the plan at once if he is interested.

The Home is where the Heart is

"But how warm is the Heart—the Heating System—in your Home?" asks Honeywell

PROJECT WARM HEARTED HOUSE, one of the most unusual and all-inclusive sales promotions ever undertaken in the home heating industry has been launched by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Kicked off in November, the program will reach a peak in March, when it will be announced to homeowners through a five-page two-color ad in *The American Home*, a national consumer magazine. "Are you the owner of a warm hearted house?" asks the ad, referring to a properly functioning heating system as the "warm heart" of a house.

Continuing in quiz form, the ad gives homeowners a chance to rate their heating systems as to whether they are "Lovable, Livable, or a Liability." Ratings are to be based on whether the system provides comfort, whether it is "polite"—that is, clean and odorless—and whether it is easy on the pocketbook. The quiz offers clues which help the answerer tell whether "everybody at home feels at home," clues being based on home heating standards compiled by Honeywell's home heating expert, Bill Nessell.

Program open to Industry

This all-inclusive program, as it is projected at all homeowners, is open to the entire heating industry. Honeywell has invited 55,000 heating dealers and contractors throughout the country to participate, and is enlisting the support of original equipment manufacturers, wholesalers, manufacturers representatives, heating utility companies and heating trade associations.

Project Warm Hearted House was announced to dealers and contractors through a special novel mailing. Other industry groups and manufacturers received copies of the announcement and were urged to promote and to encourage their dealers to participate.

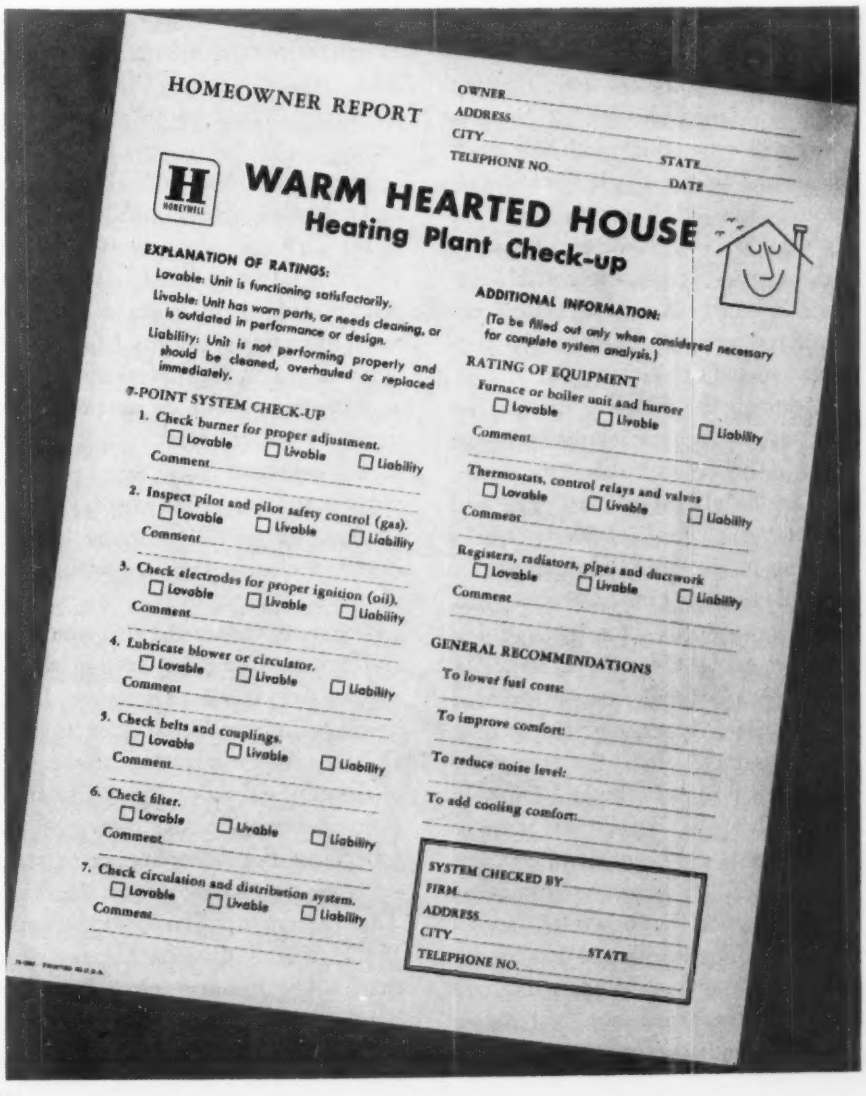
Those dealers participating will be provided with free promotion and merchandising aids. Promotion items come in a special Project Warm Hearted House Kit. Kits are complete with newspaper ad mats for printing in dealer's local newspapers, homeowner mailing folders for the dealer to send to his prospective customer, and salesman's label tags, which identify him as a Warm Hearted House specialist. They contain Warm Hearted House banners to be posted in windows, on walls and on counters, heating system check pads with an original for the homeowner and a carbon copy for the dealer, and heating plant stickers, which pronounce the approved system "warm hearted."

Dealers who participate will have their names in the national ad. Deadline for dealer entries is December 27.

Via coupon, homeowners will send the results of their quiz to a participating dealer, who, in turn, will give the homeowner a "$15 checkup" without cost. Dealers advertising must agree to redeem the coupons.

The check-up part of the program is aimed at a rich potential of over 20 million owners of homes with heating plants more than ten years old.

Investing an estimated $100,000 in their nationwide modernization program, Honeywell believes the unique homeowner quiz will go a long way toward humanizing the home heating system and creating for it a new image associated with the aura of comfort, hospitality and pleasant living.



HOMEOWNER REPORT

OWNER
ADDRESS
CITY
TELEPHONE NO. STATE
DATE

H HONEYWELL

WARM HEARTED HOUSE
Heating Plant Check-up

EXPLANATION OF RATINGS:

Lovable: Unit is functioning satisfactorily.

Livable: Unit has worn parts, or needs cleaning, or is outdated in performance or design.

Liability: Unit is not performing properly and should be cleaned, overhauled or replaced immediately.

9-POINT SYSTEM CHECK-UP

1. Check burner for proper adjustment. ☐ Lovable ☐ Livable ☐ Liability
Comment
2. Inspect pilot and pilot safety control (gas). ☐ Lovable ☐ Livable ☐ Liability
Comment
3. Check electrodes for proper ignition (oil). ☐ Lovable ☐ Livable ☐ Liability
Comment
4. Lubricate blower or circulator. ☐ Lovable ☐ Livable ☐ Liability
Comment
5. Check belts and couplings. ☐ Lovable ☐ Livable ☐ Liability
Comment
6. Check filter. ☐ Lovable ☐ Livable ☐ Liability
Comment
7. Check circulation and distribution system. ☐ Lovable ☐ Livable ☐ Liability
Comment

ADDITIONAL INFORMATION:
(To be filled out only when considered necessary for complete system analysis.)

RATING OF EQUIPMENT

Furnace or boiler unit and burner ☐ Lovable ☐ Livable ☐ Liability
Comment
Thermostats, control relays and valves ☐ Lovable ☐ Livable ☐ Liability
Comment
Registers, radiators, pipes and ductwork ☐ Lovable ☐ Livable ☐ Liability
Comment

GENERAL RECOMMENDATIONS

To lower fuel costs:
To improve comfort:
To reduce noise level:
To add cooling comfort:

SYSTEM CHECKED BY
FIRM
ADDRESS
CITY STATE
TELEPHONE NO.

Oilheating in the largest Market

With 200 fueloil and 75 service Trucks, Petro shares the Load

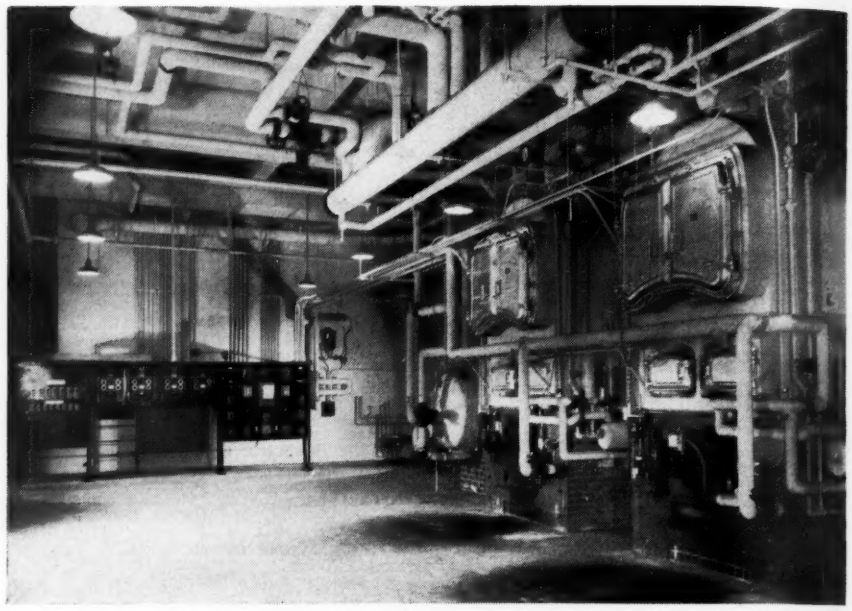
THE HEALTHY APPETITE of the boilers and furnaces in the "canyons" of Manhattan, the "bedrooms" in Brooklyn, the institutions in the Bronx, the factories in Greenpoint, the warehouses in Long Island City and the homes in the suburbs demand a sea of oil for winter comfort and year-round power.

To help satisfy this craving, Petroleum Heat and Power Company has an organization that is ready to furnish the burner, supply the oil and fully service the needs of tens of thousands of customers. These range in size from a modest one-family dwelling to buildings that consume oil in quantities large enough to permit them to receive deliveries by river barges. During a normal day, in the peak heating season, Petroleum Heat and Power Company delivers two million gallons of fueloil.

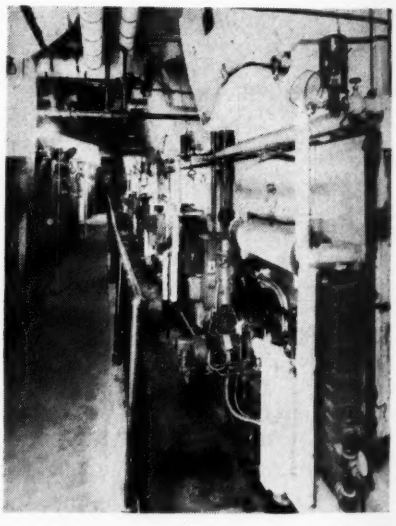
Anyone who tries to drive through parts of Manhattan during business hours will sympathize with the truck driver who spends a half hour to pass through crowded crosstown streets. At his destination he usually finds no parking space within a reasonable distance. Traffic policemen in these areas aren't too sympathetic with the perplexed fueloil driver.

Although the financial district has kept pace with the development of our times, it never got around to widen the famous places such as Wall and Pine streets. Fuel delivery trucks working in the financial district may as well not go out as try to pass through these places if another vehicle is anywhere on the same street.

Problems become further involved by the relatively greater demand for prompt service. Whereas a homeowner could often wait several hours, a factory, hospital, department store or apartment house demands immediate attention. To an operating business or plant a burner shut-down or run-out could mean a substantial loss in income. In an apartment house a tenant is usually concerned with nothing beyond the radiator in his apartment.



Two typical Petro industrial oilburner installations. Below, six large burners in the Park Sheraton Hotel, New York. These replaced six other Petro's, removed after 20 years service. The other installation is a model job at the new St. John's University, Jamaica, N. Y.



Local health and rent laws stand strongly behind tenants' demands. Hospitals that depend upon fueloil for heat, power, cooking, laundry and sterilizing cannot afford to have failures.

The problem of not being able to make daytime deliveries in many areas of the City has been converted into an advantage. In such areas Petro's trucks start making their deliveries after the usual day's business is over. Streets are clear of traffic and interruptions are at a minimum. An important benefit derived by Petro from such deliveries is that overhead costs are spread over a wider base. In other words, delivery trucks that would normally lie idle during the night are used around the clock.

The nerve center of Petroleum Heat and Power Company in the Metropolitan Area is housed in its new headquarters in the Flushing section of Queens. An examination of the map of the city will show that this location is in the geographical center of the four major Boroughs. Important parkways are only minutes from the office. The centers of Manhattan, Bronx, Brooklyn and Queens are no more than a few minutes away from this point.

Operations in Westchester are directed by the White Plains office. An office and plant in Stamford takes care of lower Connecticut. The growth of housing on Long Island comes under the supervision of offices in Mineola and in Sayville.

To carry on its activities The Petroleum Heat and Power Company operates 325 vehicles. This operation, in itself, constitutes a substantial business. Normally 200 of these trucks are used for delivering fueloil. The re-

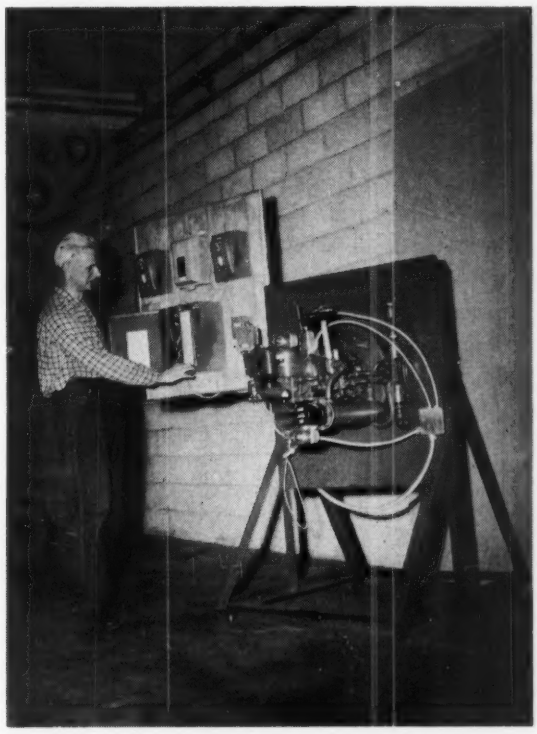
mainder are used for various services. Petro has 33 pick-up points strategically located in the Metropolitan Area, to minimize the ratio of delivery time to gallonage.

The harbor, rivers and the bays are also utilized to carry the product. The customers along the water front who have enough bulk storage facilities receive delivery by barges.

Petro, together with Metropolitan Petroleum Corporation, jointly built the first and only deep water tanker terminal on Manhattan Island. This terminal can store 13 million gallons of fueloil.

Keeping the fires burning and the customers satisfied comes under the supervision of an effective and well-organized service department. A fleet of 75 service trucks is prepared to work around the clock 7 days a week, including holidays. Each of these trucks is equipped with more than $1,000 worth of repair parts, enough to take care of almost any emergency. The nerve center in the Flushing office is in constant communication with these servicemen. The impact on the community of the advertising created by so many attractively painted and clean trucks is a highly valued asset.

Maintaining a supporting inventory of burners and replacement parts for Petro burners and other makes being serviced is a complex and costly problem. This inventory of over a half million dollars is kept at different points throughout the area in order to reduce running time for the pick-up of parts.



Simulated burner and control mock-up, including an operating control panel, used for classroom instruction by Petro. Henry Kress, in charge of parts and stock at the Flushing, N. Y., headquarters, demonstrates the unit, developed by Petro to go through a burner's entire operating cycle, indicating sequence with a series of lights. In addition, it can imitate improper conditions so that servicemen can analyze the malfunction, trace circuits and decide corrective action.

Service Training

It takes about 5 years of experience, plus constant refresher training, to bring a Petro serviceman to the point where he can properly cope with the intricacies of commercial and industrial installations. Periodically, the company conducts schools for its servicemen and for its distributors. New devices, innovations, changes in designs of burners and controls, advanced methods of servicing, local requirements, customer relations and servicing methods make up the curriculum. Illustrated lectures and workshops are conducted by members of their own organization and by representatives of manufacturers of the various component parts. The latest program features electronic controls.

Petro installations are made in New York by dealers who are selected and franchised. Some do their own servicing. However, in most cases, Petro takes over the service contract for proper operation of this equipment.

All commercial and industrial burners are completely dismantled and overhauled every season. This helps to absorb the off-season time of the service department. It also substantially reduces emergency calls during the heating season.

Petroleum Heat and Power carries its work into almost every type of business, industry and institution in and around New York. Some of their more dramatic installations are located in the Statue of Liberty, the City Hall, the Astor Hotel, the International Business Machine plant in Poughkeepsie, New York, and the new St. John's University buildings in Queens.

Within the past few years Petro has been getting into airconditioning. The relationship between heating and airconditioning is receiving greater acceptance among customers. Commercial and industrial users of oil are coming into the market as airconditioning customers.

Petro has found that its best market for airconditioning lies among customers whose problems require more than a cursory knowledge of equipment installation.

An important factor, not to be overlooked, is the around the clock service that Petro has to offer. Those who depend on Petro's oilburner service department are among the best customers for airconditioning.

What is the outlook for the future at Petro? Kenneth G. MacCart, president, and David J. Sullivan, executive vice-president, are confident that their business will grow with the further development of commercial and industrial construction in this area. There is also a substantial growth market for fueloil among large users of coal for heat and power. They also expressed the opinion that to safeguard the reputation of the industry is everyones responsibility. Careful installations, good service, reasonable prices and an overall protective thought for the customer will keep the industry operating at a high level for many years to come.

Installing tankless Heaters

Internal and external water Heaters in steam and hot water Boilers and their Control

by H. E. Phipps*

AFRAID of tankless type domestic water heaters?

If you are, you are not alone, but they can be installed to give completely satisfactory service.

A tankless heater is essentially a length of copper tube coil either finned or plain, through which the domestic water supply passes before being piped to the "hot" faucets. This coil is immersed either directly in the heating boiler in the case of a built-in type, or in the case of external-type heaters, in a separate surrounding shell piped to the heating boiler in such a manner that the boiler water may flow around this coil.

Assuming correct installation and control, the main points to avoid are not to oversell the heater's ability nor try to use one in an application for which it is not suited or rated by its manufacturer.

With any of these installations it is absolutely essential to bear in mind that the heaters are sized according to a given flow rate which they may be expected to handle in gallons of water per minute, the usual sizes for normal residential use being 3, 4, 5, 6 or 8 gpm. From this, it appears obvious that regardless of any other consideration as to proper installation, if the rate of water flow through the coil is not controlled, the job stands a pretty good chance of being unsatisfactory due to attempting to heat more gallonage per minute than the heater rating, with consequent "running out of hot water."

The other variable obviously needing close control is, of course, the temperature of the water surrounding the coil and indirectly heating it, which is the boiler or heating-plant water.

Let's see how these requirements are accomplished, as well as some proven methods of piping on various types of installations. The use of an automatic, adjustable tempering or mixing valve on the domestic water lines is recommended in any case, to dilute the hot water leaving the coil with a proper proportion of cold water, the piping of which is shown in the diagrams.

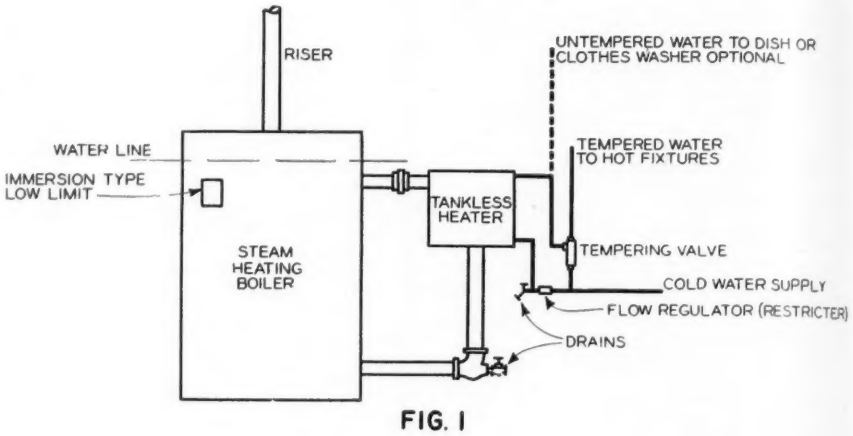


FIG. 1

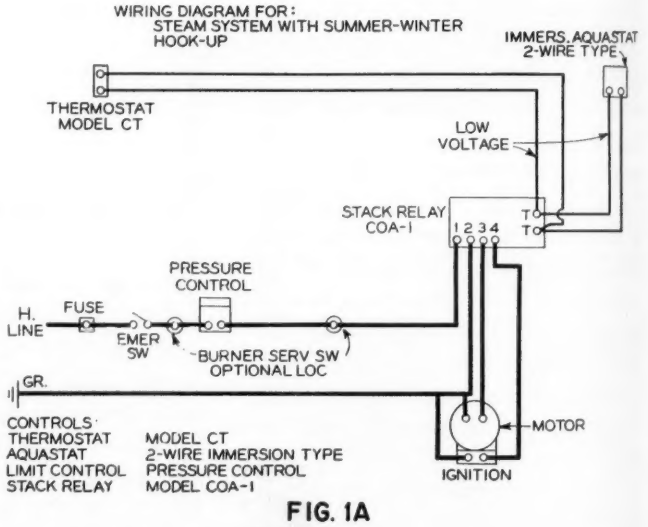


FIG. 1A

The rate of flow through the coil is controlled by means of a special fitting or flow regulator, calibrated for the rate desired, placed in the supply line to the heater. Such an item is available from any of several manufacturers through local supply houses. Where this is not readily obtained, quite satisfactory throttling may be accomplished by means of an ordinary stop valve, installed where indicated in the diagrams, and stopped down to the point necessary to reduce the flow to the desired rate. This flow rate can be measured from a hot water faucet opened wide, using a watch with a second-hand and containers of known capacity.

Where local plumbing codes prohibit the installation of a stop valve in the heater supply, the washer may be permanently removed from the valve and a small hole drilled through the valve seat making it impossible to shut off completely. The valve may then be tagged "This is a flow regulator, not a shut-off valve." It is also good practice to mark on the tag the number of turns from the "closed" position at which the flow rate equals that desired after timing as above.

We'll look at steam installations first. FIGURES 1 for the piping arrangement and 1-A for wiring show a typical external tankless job on a steel or round cast-iron boiler. Most tempering valve manufacturers recommend that their valves be trapped as shown. Stand-by water temperature control is accomplished by means of an immersion hot water control, commonly called an Aquastat, wired to the stack relay, in parallel with the thermostat. This control is usually placed in a suitable tapping in the

*Installation Manager, General Automatic Products Corp., Baltimore 3, Md.

boiler below but as near as practical to the water line.

When necessary, the control may be placed in a tee on the supply or return circulation line between the heater and the boiler. These lines should be piped as large as possible up to full size of the heater tappings, which are usually 2", to 2½" on the larger sizes. When the temperature maintenance control is placed in the heater return line, the setting is held at a somewhat lower figure to prevent the boiler from steaming on a prolonged draw of domestic hot water.

Manifolds

For a cast-iron vertical sectional boiler used for steam the situation is somewhat different, unless the boiler is a type with large upper push-nipples falling partially below the water line, in which case the installation is the same as that just described. Otherwise it is necessary to manifold the sections together slightly below the water line to assure inter-sectional circulation, extending this manifold to the upper tankless heater tapping. This situation is pictured in FIGURE 2. The boiler sections are usually tapped to 1" IRS, which then are tied into a manifold of the size desired to be connected to the heater.

A call for heat from the thermostat on a steam system aids the domestic hot water supply, of course, because the boiler water temperature is raised, the thermostat over-riding the Aquastat to bring the boiler to steaming temperature to heat the radiation. This points up the fact that a tempering valve is essential, for under these circumstances the domestic water can leave the tankless heater at near the steaming point with consequent danger of scalding the user. The tempering valve will blend cold water to make the mixed supply delivered to the faucets a more reasonable temperature, say 140°F. Adjustable types are available.

Now let's see what the situation is with tankless type heaters installed on hot water heating plants. Suitable boiler water temperatures must be maintained all times, the same as with a steam system. To prevent circulation of this water by gravity to the installed radiation when no heat is required in the living quarters, a check valve, commonly called a flow control or flow check valve is placed in the riser atop the boiler. A mechanical pump or water circulator is placed in the return main near the boiler, which is responsive to the action of a thermostat in the occupied area. The pump establishes flow, opening the flow control valve and circulating boiler water through the radiation back to the boiler.

Here we immediately see we are faced with a new problem, for as soon as the circulator starts, it begins to evacuate the boiler of hot water, replacing it with cooler water from the radiation and return mains. Before the burner can catch up with the situation, the tankless heater coils are immersed in lukewarm boiler water. About this time Mr. Customer decides to take a shower or his wife to wash the dishes, and what happens? Your telephone rings! A service call for "no hot water." By the time the serviceman arrives, the situation may very well have corrected itself, temporarily.

In the evolution of this type job, the first thing that was tried in order to correct this condition was the so-called reverse-acting Aquastat, that is, one which "makes" on temperature rise and "breaks" on temperature drop. This was installed in a well in the boiler and placed in series electrically with the circulator motor to shut off the circulator when the boiler water temperature dropped to a predetermined point, in an effort to protect the tankless heater, regardless of whether or not the thermostat continued to call for heat.

The circulator would cut in again as the burner raised the temperature of the boiler water, and the cycle repeated as many times thereafter as necessary, until the thermostat eventually was satisfied.

This was only partially successful, as possible locations for this second immersion control were not always ideal and its temperature setting was critical, as well as there being a time lag for it to act. The development by control manufacturers of the extra sensitive dual combination control, with low limit and reverse acting switches in a single case and well, was a decided improvement. Both switches were actuated by temperatures sensed at the same location, and their action could be more closely coordinated. This control, when installed in a cross fitting the full size of the heater tapping as shown in FIGURE 3, gives very satisfactory results. Wiring is shown in FIGURE 3-A. While this indicates the use of a line voltage thermostat, it may just as readily be done with a low voltage type and intermediate relay.

The use of the flow-inducing fitting where the heater return meets the boiler return main is highly recommended, to maintain a flow down through the heater when the circulator is in operation. If an ordinary tee or even a "Y" fitting is installed here, the flow through the heater is often stagnated when the circulator runs, or sometimes even flows in reverse, with comparatively cold water from the re-

SHOWING MANIFOLD ON SECTIONAL STEAM BOILER

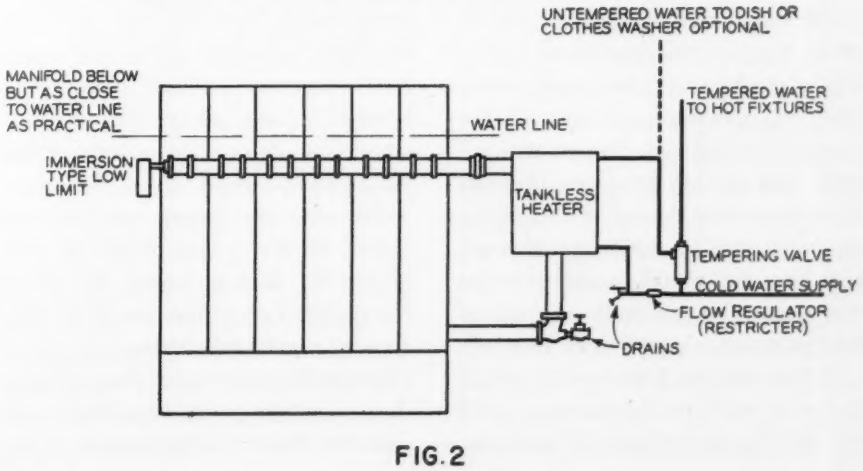

UNTEMPERED WATER TO DISH OR CLOTHES WASHER OPTIONAL
MANIFOLD BELOW BUT AS CLOSE TO WATER LINE AS PRACTICAL
WATER LINE
TEMPERED WATER TO HOT FIXTURES
IMMERSION TYPE LOW LIMIT
TANKLESS HEATER
TEMPERING VALVE
COLD WATER SUPPLY
FLOW REGULATOR (RESTRICTER)
DRAINS

FIG. 2

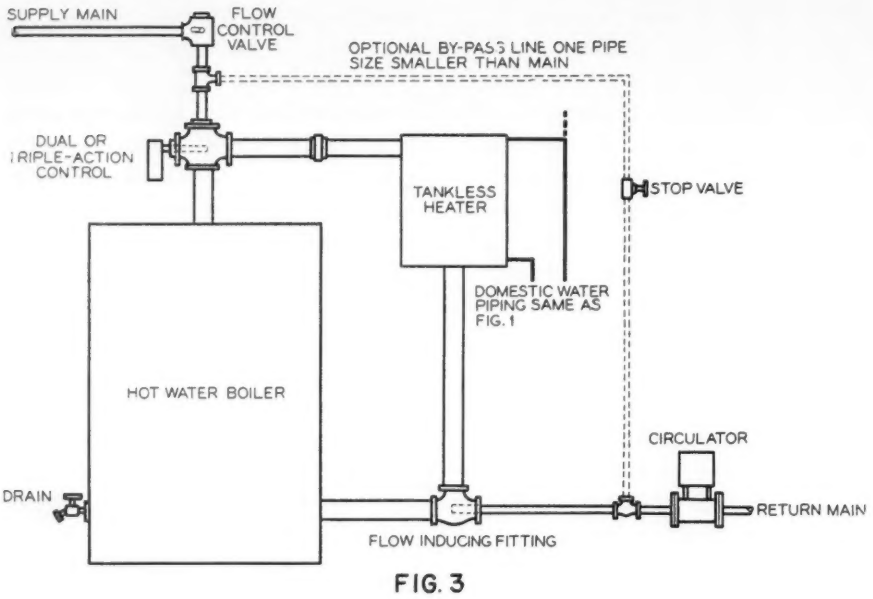


FIG. 3

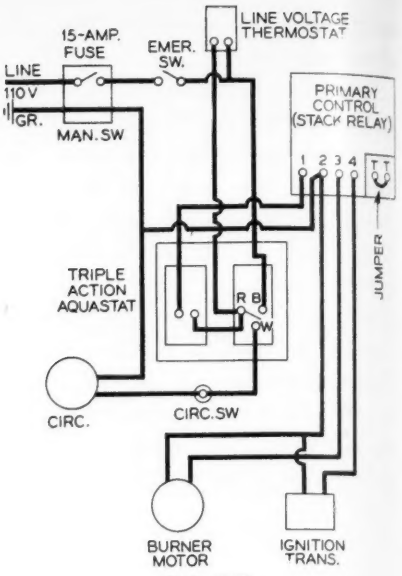


FIG. 3B

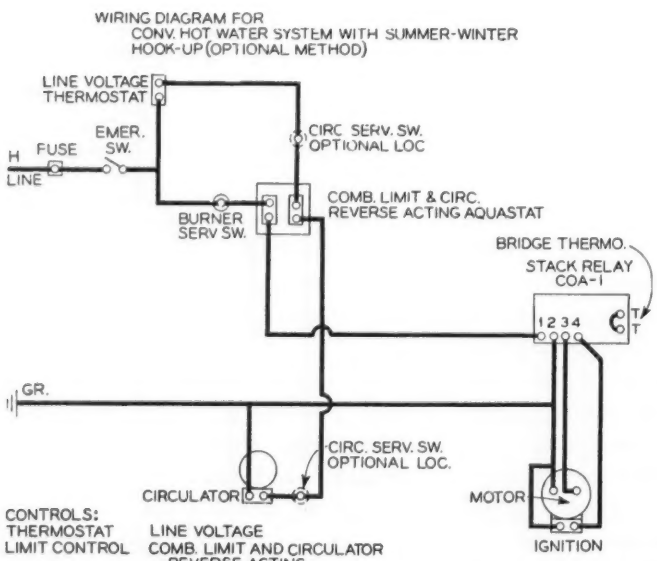


FIG. 3A

turn main backing up through the heater, resulting in continual unsatisfactory operation. A substitute for this fitting may be made with a tee, double tapped bushing and nipples.

The use of the dual control still allows a temperature drop to take place before the burner comes into action after the circulator has started. On the average domestic job this isn't necessarily detrimental, but even this can be eliminated by the use of the "triple-action" control, combining low limit, high limit and reverse acting switches in a single case and well. The wiring for this set-up is shown in FIGURE 3-B.

In this case, the burner starts simultaneously with the circulator on a call for heat by the thermostat, and continues to run until either the thermostat is satisfied or the high limit goes into action, should the boiler temperature reach its setting prior to a thermostat shutdown.

The use of a boiler by-pass line, one pipe size smaller than the main, will further improve the overall operation. This will by-pass some return water around the boiler to mix with hot water leaving the boiler in the supply riser, sending tempered water out to the radiation. This will materially reduce expansion noises on initial start-up of the circulator, and decrease the rate at which the boiler is cooled, prolonging circulator operation, enabling remote sections of radiation to get their share of circulation before the reverse-acting switch can cut it off.

Provided the system has been designed properly, with boiler of adequate size, fired at rating, the longer the required operation, the hotter this blended water will become, giving in effect modulated water temperatures. A valve in the by-pass line can be adjusted to reduce the proportion of by-passed flow should operational experience prove this desirable. An explanation of FIGURE 3-B:

An internal blade pivoted at "R" in the right hand side of the triple action control acts as a low limit switch, when it bridges "R" to "B" on a drop in boiler water temperature, thus bringing on the burner. When the temperature has been raised the amount of the differential setting, the switch is actuated, allowing the blade to bridge from "R" to "W." In this position it can be seen that should the thermostat contacts close, not only will the circulator run, receiving current through the thermostat and across this "R-W" bridge, but the burner will also start, the stack relay receiving current from "R" through the high limit switch, which is set at a figure 10°F or more above the low limit setting, and normally is closed.

Also, should the boiler water temperature drop due to circulator action and the blade swing from "R-W" to "R-B," the circulator will stop until the burner "catches up" and "R-W" is again closed, when the circulator will again start if the thermostat contacts are still closed. Conversely, should the burner "get ahead" of the circulator and attempt to overheat the boiler, the high limit switch on the left side of the triple action control will open, thus stopping the burner, but allowing the circulator to continue to operate as long as the thermostat contacts and "R-W" are closed.

Manufacturers, wake up

Your Outlets need and are ready for a replacement Program, and You need the Business

by Lionel L. Jacobs

To highlight the possibilities in the modernization and replacement of aging oilheating systems, Lionel Jacobs here outlines a positive approach. His solution lies in the obvious, but too often neglected, need for pre-selling the prospect and then following up with basic face-to-face selling. As he points out, "Having awakened the consumer's interest, there is almost no limit to the extent to which such modernization can be carried."

TIGHT MONEY has slowed up the home building activity. Replacement and revamping of heating plants is receiving much lip service, but talking alone will get nowhere.

Without question there are thousands of heating plants, installed during 1920-30, more than 30 to 35 years ago, that, in the interests of customer satisfaction and operating cost, performance and appearance, should be replaced or modernized. There is no doubt that with proper advertising and sales promotion, plus face-to-face selling, the public could be interested, and having the money to spend, (financed over three to five years if necessary, or tacked on an open end mortgage), could and should be sold at this time. If fueloil does not, gas is surely going to do this.

New selling Blood

As a sales manager, if I were inaugurating such a program, I believe I would try to get entirely new blood. I believe I could find a few young men in any locality who could be induced to appreciate the possibilities of real work in this connection, if supported by adequate pre-selling. Such men would have to be trained in certain fundamentals so that they could talk to prospects, and get respect for their suggestions.

They would have to be supported in the field by someone in charge of installation who fully understood the conditions — could give alternative propositions and proper prices, and who would insure customer satisfaction. In the early days of World War II, when the sale of oilburners was restricted, advertising "Correctional Heating" got excellent response, and because our work was right, almost every sale brought one or more sales to friends by recommendation.

Two or three years ago, a program suggesting getting rid of cast-iron radiation, and replacement by modern baseboard radiation with improved heat distribution, better appearance and ability to locate furniture, etc. sold thousands of feet of baseboard radiation from a post card campaign.

Another program offered a guaranteed saving based on actual operating tests and past fueloil purchase records, and this, in my opinion, should be the basis of a very active campaign today.

These campaigns must be run by the retail outlets and manufacturers need to plan them, provide material, and have their field men follow through. Existing equipment should be used to the last possible extent. Jobs that are 20 or more years old justify and need new boilers and furnaces, new controls, new oilburners and accessories. These are the jobs on which it is generally easy to sell a complete boiler or furnace burner unit.

Having awakened the consumer's interest, there is almost no limit to the extent to which such modernization can be carried.

There will be talk of summer cooling. This should not be allowed to influence adversely the plans for revamping the heating plant.

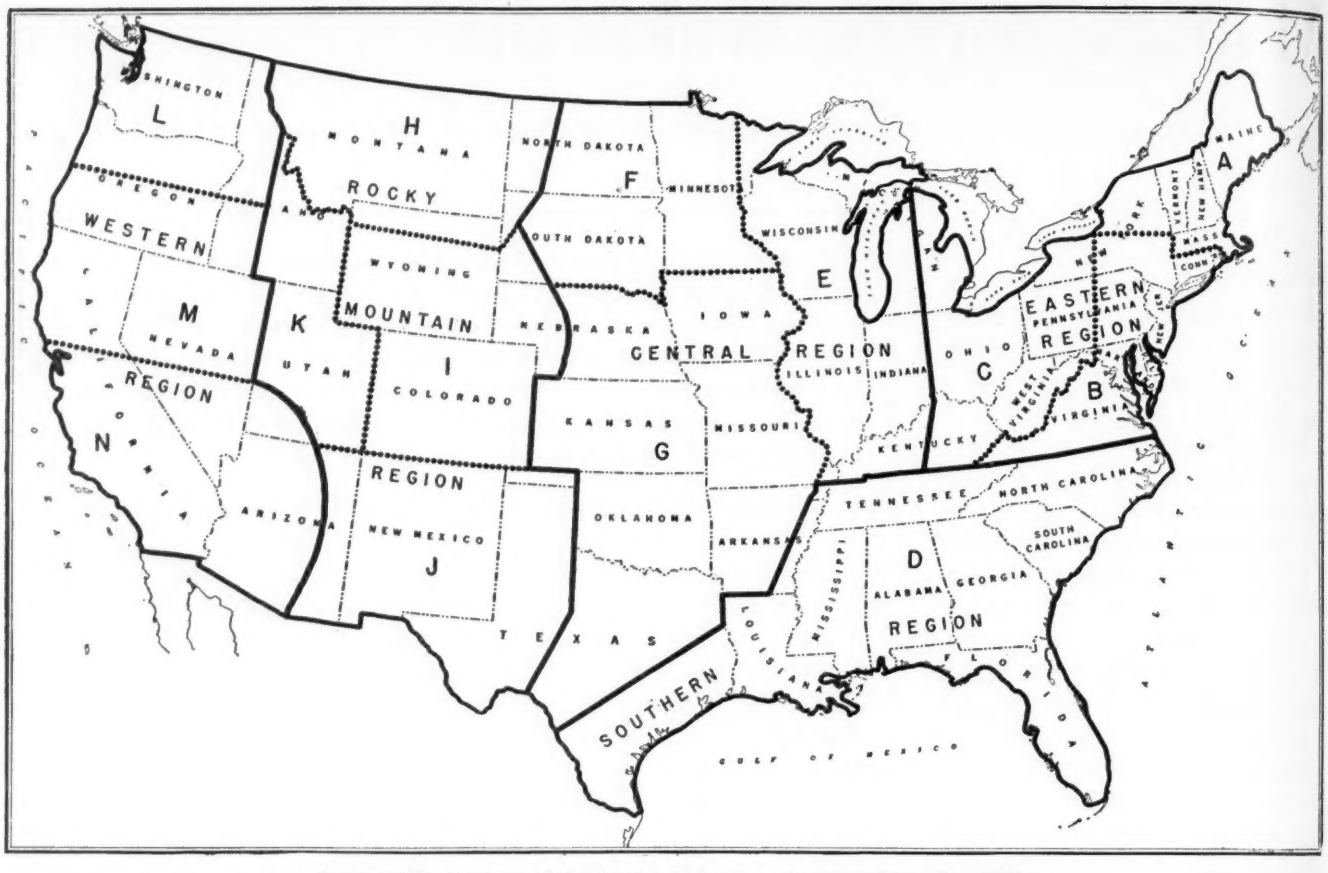
Modern cooling plants with separate condensing and chiller units where the condenser can be placed at or below ground level, and probably outside, with the cooling unit located in the attic, or in a shed built on a flat roof, are the most satisfactory and least expensive plants in both first cost and operation. The fact that cold air falls makes ceiling distributors a natural means of distribution.

It could well be that in a heating plant revamping program, quite a few homeowners would listen to a suggestion of framing room coolers into walls to eliminate the window application to which so many people object. This would allow individual control of the cooling. Because people do not have the same comfort reactions, this individual control is most important.

Coming back to our heating plant revamping, where ductwork exists, and the customer insists on summer cooling, either at the time or as a later development, a split system offers many advantages, particularly in insuring adequate domestic hot water without an additional heating unit, while still using existing duct work.

Suitably sized heating (and cooling) coils are available as stock items, and the building of a plenum chamber and housing for these coils around the original blower equipment (if still in good shape) is a simple and relatively inexpensive proceeding.

The writer is convinced that the policy of drift that the retail oilheating outlets have adopted over the past several years must stop and every manufacturer of oilheating equipment must realize that only by an active campaign made available to their dealers and actively pushed by their field men, can they hope to obtain the volume of new business they need. It certainly seems ridiculous to sit by and watch the tremendous potential represented by over 9,000,000 existing oilheating plants be handed on a platter to another industry for lack of imagination and intelligent planning.



Geographical areas of the National Survey of Burner-Fuel Oils, 1957

Third Survey of Burner-Fueloils published by Bureau of Mines

SOME 440 samples refined by 44 companies in 129 refineries throughout the United States and Canada provided the data recorded in the tables on these two pages.

Samples of heating oil typical of their manufacture were analyzed by refiners in accordance with instructions from the subcommittee on fuel surveys of the American Petroleum Institute. Results of the analyses were published by the United States Department of the Interior, Bureau of Mines.

This is the third such survey originally published at the request of the Oil-Heat Institute of America. Material collected on the samples is divided into five groups according to the grade of oil. Each group is further divided into geographic sections as indicated by the map above.

Twelve laboratory tests formed were used to analyze the different samples of fueloil.

Summary of Grade 2 Fuels, Burner-fueloil Survey, 1957

Geographic distribution of burner fueloils[1]				Eastern region			Southern region			Central region			Rocky Mountain region			Western region		
Districts within region				A, B, C[2] D, E, G			D			E, F, G[2 3]			H, I, J, K[3]			L, M, N		
Additional districts[4]							A, B, C, E, F, G			A, B, C, D, H, J			E, G, L, M, N			H, I, K		
Number of fuels				57			22			49			20			26		
Test	ASTM D396 Method	Requirements Min.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.
Gravity .....° API	D287	26	..	26.7	35.2	43.5	30.2	34.6	46.3	26.7	35.0	39.9	26.0	35.4	40.8	27.0	34.6	41.2
Flash point, Pensky-Martens closed tester .....° F.	D93	100	..	130	..	215	144	..	186	128	..	215	140	..	214	132	..	230
Viscosity Kinematic at 100° F. .....centistokes	D445	..	4.3	2.02	2.59	3.38	2.0	2.51	3.16	1.88	2.50	3.38	1.85	2.56	3.59	1.50	2.92	4.62
Cloud test .....° F.	D97	..	..	—16	..	30	—10	..	12	—18	..	16	—30	..	12	—50	..	22
Pour point .....° F.	D97	..	20	—35	..	20	—35	..	0	—25	..	0	—35	..	5	*—40	..	20
Sulfur content .....wt. percent	D129	..	1.0	0.04	0.305	0.76	0.02	0.271	0.55	0.07	0.292	0.76	0.07	0.421	1.3	0.15	0.465	1.3
Aniline point .....° F.	D611	..	..	105.4	141.3	177.4	122	140.0	170	88	136.8	162	88	136.4	160	89	139.0	157.0
Ramsbottom carbon residue on 10 percent residue .....percent	D524	..	0.35	0.01	0.128	0.50	0.05	0.128	0.287	0.017	0.130	0.30	0.003	0.120	0.27	0.06	0.123	0.31
Corrosion, 3 hous at 122° F. .....No.	D130	..	..	1	...	3	1	...	3	1	...	1	1	...	1	1	...	2
Ash[5] .....percent	D482	..	..	0.000	0.000	0.005	0.000	0.000	0.000	0.00	0.000	0.001	0.000	0.000	Trace	0.00	0.000	0.004
Water and sediment .....vol. percent	D96	..	0.10	0.00	0.00	0.02	0.00	0.00	0.02	.00	0.00	0.01	0.00	0.00	*0.1	.00	0.00	*0.1
Distillation test, on volume recovered basis:	D158																	
Initial boiling point .....° F.		..	..	315	363	448	320	358	415	314	362	444	333	376	440	339	383	460
10 percent		..	[6]440	378	429	492	395	427	454	375	426	492	375	432	482	360	435	500
50 percent		..	..	459	502	547	436	500	530	438	497	547	430	489	533	400	497	570
90 percent		..	675	538	585	634	463	582	612	538	575	612	510	567	615	457	576	642
End point		..	..	597	634	669	572	640	671	587	624	671	568	628	676	497	635	703

[1] Regions and districts are shown on map (fig. 1). [2] Included are analyses of some fuels produced and distributed in eastern Canada, north of districts A, C, and E. [3] Included are analyses of some fuels produced and distributed in western Canada, north of Districts H and F. [4] Some of the fuels are sold in districts of more than one region. [5] Figures for ash are not shown in the tables of detailed analyses as they were not required for the grade. However, some data, less than one-fourth of the analyses, contained results of the test which are summarized here. [6] Footnote in table I of ASTM D396-48T: "The 10 percent point may be specified at 440°F. maximum for use in other than atomizing burners." [7] Included in the 1956 survey were some analyses of two fuels produced and distributed in western Canada, north of districts H and L. *Is less than.

Summary of Grade 1 Fuels, Burner-fueloil Survey, 1957

Geographic distribution of burner fueloils[1] / Districts within region / Additional districts[4]				Eastern region A, B, C,[2] D, E, G			Southern region D			Central region E, F, G[2]			Rocky Mountain region H, I, J, K[3]			Western region L, M, N		
Number of fuels				48			A, B, C, E, F, G 14			C, D, H, I, J[3] 50			E, F, G, L, M, N 25			H, I, K 19		
Test	ASTM D396 Method	requirements Min.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.
Gravity ..... ° API	D287	35	..	37.7	43.0	47.3	37.7	42.4	44.1	37.7	42.4	44.6	38.5	41.8	44.4	34.5	39.3	43.2
Flash point, Tag closed tester .... ° F.	D56[5]	100	..	120	..	149	126	..	142	120	..	158	126	..	165	127	..	150
Viscosity																		
Kinematic at 100° F. ....centistokes	D445	1.4	2.2	1.39	1.68	2.29	1.39	1.70	2.29	1.39	1.78	2.31	1.47	1.74	2.2	1.47	1.80	2.2
Cloud test ..... ° F.	D97	..	..	—56	..	—10	—56	..	—14	—50	..	30	*—60	..	—10	—62	..	—28
Pour point ..... ° F.	D97	..	0	—60	..	0	—60	..	*—15	—60	..	*—10	*—60	..	—25	—65	..	*—20
Sulfur content .....wt. percent	D129	..	0.5	0.01	0.081	0.23	0.03	0.085	0.23	0.01	0.119	0.41	0.01	0.190	0.87	0.01	0.237	0.87
Aniline point ..... ° F.	D611	..	..	137.5	149.0	165	141.5	148.6	154.0	136	150.5	162	136	147.0	162	121.0	139.6	155.8
Ramsbottom carbon residue on 10 percent residue .....percent	D524	..	0.15	0.0	0.055	0.10	0.05	0.070	0.10	0.0	0.064	0.12	0.00	0.060	0.16	*0.01	0.084	0.22
Corrosion, 3 hours at 122° F. .....No.	D130	..	3	1	..	3	1	..	3	1	..	2	1	..	1	1	..	2
Ash[6] .....percent	D482	..	..	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.001	0.000	0.000	0.000	0.00	0.000	0.00
Water and sediment .....vol. percent	D96	..	Trace	0.00	0.00	*0.01	0.00	0.00	*0.01	0.00	0.00	Trace	0.00	0.00	*0.1	.00	0.00	*0.1
Distillation test, on volume recovered basis:	D86																	
Initial boiling point ..... ° F.		..	..	326	347	371	332	349	368	313	350	378	313	355	378	332	353	382
10 percent		..	420	358	382	412	358	384	412	356	386	420	356	390	428	360	391	410
50 percent		..	..	390	429	480	390	431	480	390	439	480	402	435	497	400	436	456
90 percent		..	..	436	492	572	444	495	572	444	508	572	462	500	556	457	499	535
End point		..	625	464	533	622	486	530	622	486	548	622	498	546	597	497	543	583

[1] Regions and districts are shown on map (fig. 1). [2] Included are analyses of some fuels produced and distributed in eastern Canada, north of districts A, C, and E. [3] Included are analyses of some fuels produced and distributed in western Canada, north of districts H and F. [4] Some of the fuels are sold in districts of more than one region. [5] This method was selected for grade 1 burner fueloils for the survey although ASTM D396-48T, Tentative Specifications for Fueloils, specifies flash point by Pensky-Martens Closed Tester (ASTM D93). [6] Figures for ash are not shown in the tables of detailed analyses as they were not required for this grade. However, some data, less than one-fourth of the analyses, contained results of the test which are summarized here. *Is less than.

Summary of Grade 4 Fuels, Burner-fueloil Survey, 1957

Geographic distribution of burner fueloils[1] / Districts within region / Additional districts[3]				Eastern region A, B, C[2] E			Southern region D —		Central region E, F, G C, H, K, L			Rocky Mountain region H, I, J, K F, L			Western region L, M, N F, H, I, K		
Number of fuels				22			1		8			3			2		
Test	ASTM D396 Method	requirements Min.	Max.	Min.	Avg.	Max.	(Data on 1 sample)		Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.
Gravity ..... ° API	D287	..	..	9.2	22.5	33.0	27.4		9.2	19.8	34.0	9.8	20.9	28.8	9.8	(4)	28.8
Flash point, Pensky-Martens closed tester ..... ° F.	D93	130	..	142	..	235	230		156	..	235	200	..	235	220	..	235
Viscosity																	
Kinematic at 100° F. ....centistokes	D445	5.8	26.4	4.72	16.00	26.3	7.9		2.99	17.7	22.2	4.3	(4)	21.9	4.3	(4)	21.9
Cloud test ..... ° F.	D97	..	..	..	..	..	..		..	..	..	..	[5]24	..	..	[5]24	..
Pour point ..... ° F.	D97	..	20	*—50	..	15	0		—40	..	15	—40	..	20	—40	..	10
Sulfur content .....wt. percent	D129	..	..	0.20	0.797	2.0	0.22		0.270	0.790	1.63	1.18	(4)	2.1	..	[5]2.1	..
Aniline point ..... ° F.	D611	..	..	..	..	..	..		..	..	..	..	[5]143	..	..	[5]143	..
Ramsbottom carbon residue on 100 percent sample .....percent	D524	..	..	0.052	3.31	6.85	..		0.061	3.88	5.74	0.08	(4)	1.75	..	[6]0.08	..
Corrosion, 3 hours at 122° F. .....No.	D130	..	..	..	[5]1	..	..		..	..	..	..	[5]1	..	..	[5]1	..
Ash .....percent	D482	..	0.10	0.000	0.019	0.100	0.001		0.00	0.030	0.100	0.00	0.009	0.015	0.00	(4)	0.015
Water and sediment .....vol. percent	D96	..	0.50	0.0	0.13	0.4	Trace		0.0	0.13	0.2	0.0	0.1	0.2	0.0	(4)	0.2
Distillation test, on volume recovered basis:																	
Initial boiling point ..... ° F.		..	..	..	[5]420	..	..		..	..	..	..	[5]519	..	..	[5]519	..
10 percent		..	..	..	528	..	..		..	..	..	..	554	..	..	554	..
50 percent		..	..	..	661	..	..		..	..	..	..	593	..	..	593	..
90 percent		..	..	..	..	..	..		..	..	..	..	639	..	..	639	..
End point		..	..	..	683	..	..		..	..	..	..	684	..	..	684	..

[1] Regions and districts are shown on map (fig. 1). [2] Included is an analysis of one fuel produced and distributed in eastern Canada, north of districts A and C. [3] Some of the fuels are sold in districts of more than one region. [4] No averages were computed as an insufficient number of samples was represented for this test. [5] Result of test on one sample. [6] Viscosity in Furol seconds at 122°F. *Is less than.

Summary of Grade 5 Fuels, Burner-fueloil Survey, 1957

Geographic distribution of burner fueloils[1] / Districts within region / Additional districts[4]				Eastern region A, B, C[2] D, E, G			Southern region D A, B, C, G			Central region E, F, G[3] C, D, H, K, L			Rocky Mountain region H, I, J, K[3] L			Western region L, M, N F, H, I, K		
Number of fuels				21			3			18			11			13		
Test	ASTM D396 Method	requirements Min.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.
Gravity ..... ° API	D287	..	..	8.4	16.5	24.2	14.9	17.7	19.6	6.4	14.8	25.7	6.4	12.0	19.0	6.4	13.4	17.5
Flash point, Pensky-Martens closed tester ..... ° F.	D93	130	..	134	..	270	164	..	210	135	..	270	145	..	300	168	..	300
Viscosity																		
Kinematic at 100° F. .....centistokes	D445	32.1	..	14.6	71.6	132.5	37.2	49.1	67.2	41.9	79.3	132.5	12.5	100.8	171.3	110	(5)	149.6
Furol at 122° F. .....seconds	D88	..	40	11	23.2	35	16	(5)	23.4	19	25.8	38.6	13.0	31.5	46.0	19	30.5	38
Pour point ..... ° F.	D97	..	..	—40	..	55	—20	..	—10	—30	..	55	—10	..	70	—20	..	40
Sulfur content .....percent	D129	..	..	0.23	1.02	2.35	0.84	(5)	1.56	0.55	1.20	3.40	0.364	2.19	4.8	0.80	1.60	4.8
Ramsbottom carbon residue on 100 percent sample .....percent	D524	..	..	3.31	6.03	9.3	6.7	(5)	9.70	4.60	7.54	10.6	3.48	7.43	16.6	3.8	8.90	14.0
Ash .....percent	D482	..	0.10	0.001	0.039	0.137	0.034	0.048	.07	0.001	0.041	0.137	.01	0.036	0.20	0.01	0.032	0.07
Water and sediment .....vol. percent	D96	..	1.00	0.0	0.20	0.6	0.10	0.17	.20	0.1	0.17	0.6	Trace	0.14	0.2	0.0	0.13	0.3

[1] Regions and districts are shown on map (fig. 1). [2] Included are analyses of some fuels produced and distributed in eastern Canada, north of districts A, C, and E. [3] Included are analyses of two fuels produced and distributed in western Canada, north of district H. [4] Some of the fuels are sold in districts of more than one region. [5] No average was computed as an insufficient number of samples was represented. [6] Included in the 1956 survey were some analyses of fuels produced and distributed in western Canada, north of districts H and L.

Summary of Grade 6 Fuels, Burner-fueloil Survey, 1957

Geographic distribution of burner fueloils[1] / Districts within region / Additional districts[4]				Eastern region A, B, C[2] D, E			Southern region D A, B, C, E, F, G, J			Central region E, F, G[3] B, C, D, H, I, J, K, L			Rocky Mountain region H, I, J, K[3] A, B, D, E, F, L			Western region L, M, N E, F, H, I, K		
Number of fuels				47			22			34			23			25		
Test	ASTM D396 Method	requirements Min.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.
Gravity ..... ° API	D287	..	..	0.3	13.0	19.5	0.1	11.5	19.7	—2.4	10.0	18.8	0.0	8.5	19.0	3.4	8.7	15.0
Flash point, Pensky-Martens closed tester ..... ° F.	D93	150	..	158	..	315	158	..	24.5	158	..	325	155	..	400	172	..	400
Viscosity																		
Furol at 122° F. .....seconds	D88	45	300	45	154.8	342	65	173.9	292	60.5	185.8	294	17	143.0	285	92	167.5	419
Pour point ..... ° F.	D97	..	..	0	..	75	0	..	65	20	..	75	—5	..	75	5	..	60
Sulfur content .....percent	D129	..	..	0.57	1.36	2.63	0.29	1.29	2.63	0.57	1.25	3.9	0.517	2.08	5.3	0.90	1.75	5.3
Ramsbottom carbon residue on 100 percent sample .....percent	D524	..	..	4.0	9.61	25.25	4.3	11.43	25.25	2.32	10.88	19.8	5.2	11.50	25.2	5.9	14.69	19.6
Ash .....percent	D482	..	..	0.004	0.053	0.349	.0	0.045	.25	0.0	0.065	0.349	.0	0.040	0.40	0.01	0.051	0.10
Water and sediment .....vol. percent	D96	..	2.00	Trace	0.24	0.8	0.03	0.23	.80	.0	0.25	0.80	Trace	0.34	2.0	0.1	0.23	2.0

[1] Regions and districts are shown on map (fig. 1). [2] Included are analyses of some fuels produced and distributed in eastern Canada, north of districts A, C, and E. [3] Included is an analysis of one fuel produced and distributed in western Canada, north of district H. [4] Some of the fuels are sold in districts of more than one region. [5] Included in the 1956 survey were some fuels produced and distributed in western Canada, north of districts H and L.

Oilheating in Lewistown

As a smaller market, things need doing to make it better

IN MOST AREAS of the country, and particularly those adjacent to larger markets, oilheating is quite efficient in all of its characteristics. This is not always true in the smaller detached communities that lack oilheating specialists or fueloil distributors who take a direct interest in equipment and service.

An oilburner is a mechanical device that will last a lifetime if periodically serviced and kept free of soot or carbon accumulation. It is also quite dependable for heating a home even when its efficiency may be impaired through neglect. The goal of the oilheating industry is to provide carefree, effective operation under all weather conditions, but this is best accomplished when the user is served by a genuinely interested dealer.

This is the story of an investigation in a Pennsylvania town located in the upland area 60 miles from the nearest city. The place is Lewistown, up the Juniata Valley from Harrisburg. It has a population of 13,500, about a thousand oilheating installations in use if you include the adjacent rural area. The phone book yellow pages list 29 companies offering oilburners or service.

Most of the heating is with coal, first because it's a modest income region and also because there has been no serious sales effort for oil heat. Natural gas has just come in and will start to push for business in 1958. That may alert the oil companies to take an interest in heating, which they haven't done appreciably up to now.

The Decision

This market came to our notice because of the work of a local young man, Homer L. Horton, Jr. In August of this year Horton got his degree from Penn State University, with G.I. bill assistance, and he commuted daily the 30 miles from the college to Lewistown.

With a wife and child he needed more income so he did considerable work in the evenings and weekends helping plumbers and furnace men of the town. He became particularly interested in oilburning. The more he learned of it the more he became convinced that some of the jobs he was seeing were not the best. With a mind for analysis he decided to make a study of oilheating as it existed and from this prepare a thesis for his degree.

This was in September 1956. He believed he could thoroughly analyze about 100 jobs between then and the end of the year by concentrating on them in all of his spare hours. To have a representative sample he went to the tax record office and located all of the homes having oilburners. Then he selected at random from each ward of the town the proportionate number based on population and made up his list of 100. He started out with suitable testing instruments and by the end of the year he had the score.

The Findings

A brief summary of the findings appears in the accompanying box.

Horton, of course, was critical of this over-all situation but not of the mechanics who might be responsible. In nearly every instance the installation had been made by plumbers, a few by sheet metal or furnace men. They are good sincere mechanics on the whole who each do just a little oilheating. They are busy men who have little time to study the finer points of combustion adjustment so long as the burners keep running and the homes are warm.

When you think of 29 dealers listing themselves for oilheating, and only a thousand burners all told to service, you can see why they're inexperienced. Typically, only two outfits have any testing equipment. Also they don't like to do annual clean-ups because it's dirty work.

It is most significant that no oil jobber in the area has enough oilheating interest to sell or service burners. One man has an oil truck that he fills at the rack of a jobber and he services the burners for his few customers. Otherwise, oil stays aloof from the problem.

Horton had enough interest to do something about this situation. He went to see the plumbers and furnace men, proposing that he would conduct a night school on oilheating last winter. The response was enthusiastic. In fact 32 men agreed to take the course. It ran one night a week, three hours a night, for 12 weeks. The men enjoyed it, learned a lot. This winter he will do it again and hopes to make a permanent feature of heating in the town.

No one can learn oilheating thoroughly in 36 hours of instruction, but the point is that these men had already been installing and servicing the burners so 36 hours could bring a lot of interest in upgrading their work. Horton was particularly pleased with the sincerity and quality of the men. He

1. **Twenty-three percent of the buildings in town are oilheated.**
2. **Of the total 100 burners, 83 are high pressure, 12 are low pressure, 5 are vertical rotary.**
3. **Oil filters were installed with 88 of the burners.**
4. **Twenty-two of the burners have no barometric damper.**
5. **Fifty-two of the units have oversized smoke pipes, some with 12″ pipes burning only 1 Gph. Here you usually find a dirty boiler.**
6. **Seventy of the burners have soft brick combustion chambers, 24 have hard brick and 6 are steel.**
7. **Eight of the units have a pressure over the fire; 40 have over 0.03″ of water draft, 8 have over 0.10″ of draft, and 52 have 0.00 to 0.03″.**
8. **Six of the burners have been equipped with delayed - action valves.**
9. **Stack temperature varied from 300 to 800°F with average 600°F. This was held down by a tendency to consistently oversize the units, aided by the recommendations of the supply house.**
10. **Thirty-eight of the units had a smoke rating above #5 Bacharach.**
11. **The CO_2 ranged from 4.0 to 8.5%, with the average 6.7%.**
12. **The average combustion efficiency of the 62 units with smoke reading of #5 or less was 7.5%, with the range from 59% to 86%. This of course was based on stack loss.**
13. **Sixteen of the jobs had flame impingement on the chamber walls or floors.**
14. **Sixty of the jobs were in need of some type of mechanical service.**

Homer L. Horton

is also quite sure that if he were to do another testing job of 100 burners this fall he would find better conditions. In teaching the course he used as texts principally Schultz's "Installing the Domestic Oilburner" and Burkhardt's manual for oilheating.

Horton learned that he liked vocational teaching so well that he decided to make it a career. He has taken a full time job as a teacher in the Lewistown vocational high school. He'll do these evening oilheating classes on the side.

The unfortunate part of this story is that the towns have so few Hortons to take a heart interest in upgrading the finer forms of heating. In these smaller markets—of the 1,000 burner type—oil men should in some way take full responsibility for service, either render it or closely supervise it. Otherwise oilheating can be hurt, in some spots is being hurt, in the competition for automatic heating.

Oilheating as an industry is being well serviced. Yet there are most surely other small markets where the score would be similar to Lewistown. The answer is education, which apparently would be welcomed if offered at times when the men could take it in. By some means this is going to be almost a necessity if the oil industry is to keep building its volume of fueloil sales.

Panels on Fueloil, jobber Problems featured by ESPA at Lake Placid

THE FALL MEETING of the Empire State Petroleum Assn. on October 21-22 at the Lake Placid Club, New York's upstate sport center, put special emphasis on panel presentations. There were morning sessions only, with afternoons free for visiting and recreation.

The fueloil panel on the first morning had four members: Joseph A. Collins, general manager, retail fueloil and oilheating, Frontier Oil Refining Co., Buffalo, Colman Mockler, manager, Fueloil Division Shell Oil Co., New York. Also Verne Resek, general manager, Cleaver-Brooks Co., Milwaukee, and president, Oil-Heat Institute of America, and Herbert M. Spade, vice-president, E. Robison, Inc., Hartsdale, N. Y. Spade substituted for Pat Caputo of Long Island. The panel was moderated by Robert Gray of FUELOIL & OIL HEAT, New York.

Collins put special emphasis on the need for the oilheating industry to close ranks to fight the common enemy rather than resorting to questionable tactics in fighting each other. He also pointed out that while in most of the East oil for heating cost less than gas the reverse was true in his market. Oilheating under that condition has grown through the years in Buffalo only because of very superior performance, product and service.

Collins particularly objects to fueloil companies promoting their product by discrediting other oils, which can only cast doubt on all oilheating in the public mind.

Referring to competitive fuel, Collins explained, "Over the years we have had lush periods when gas supply has faltered and we were able to expand rapidly, other periods when our growth was retarded and slow; during the tough periods we sold harder, and if possible rendered even better overall service to hold present customers."

He believes that keeping in touch with the future promotion and planning activities of competitive utilities is a "must," in order to plan effective competition. It is also important, he feels, to keep informed on activities outside his area which may affect his market.

An example of this is the Type B gas flue which was tested and accepted by Underwriters Laboratories years ago, unchallenged by the fueloil industry, and without one iota of effort to call attention to its inadequacy. Today when the "B" flue is accepted almost universally by code authorities, it is gratifying to see sudden activity by fueloil men to combat it, but it's about 10 years too late, in his opinion.

Mockler, the second panelist, spoke mostly of the majors' view of fueloil's future. Quoting good authority, he noted that the expanding economy of our country and of the world will require an amount of energy which taxes the imagination. This demand will call for the utmost development of all sources of energy, including, specifically, fueloil for heat. Since 1947 heating oil consumption has gone up over 100%, he pointed out.

In New York state with its 1½ million burners, or twice the number of any other state, he finds a million more oilburners than there were 10 years ago.

Fueloil's Future

From the refiner's viewpoint, Mockler reported, "You fueloil marketers now have mammoth refining facilities behind you to meet both quantity and quality. This is a long and costly story. Your importance in the total refining picture cannot be overestimated."

He noted that distillate output, including kerosene, now takes 28% of the barrel compared to only 22% of the much smaller thoroughput of ten years ago.

Recognizing that economic indicators show business pausing temporarily, he sees fuel for oilheating as being relatively immune because people insist on keeping warm.

Anticipating that the installation rate of new oilburners will decrease moderately due to a decline in con-

versions from coal and new home building, he sees the growth of fueloil volume as still sizable in the aggregate.

On gas competition he observed that the utilities have some real problems, too. They're faced with higher costs; pipeline transportation costs at least three times as much as for oil; retail distribution cost for gas is 75% of the consumer price in many areas.

Assuming normal weather in the coming season, Mockler predicted a 6% increase over last in heating oil consumption.

Resek, the third panelist, talked mostly of commercial-industrial oilheating. He spoke of the basic differences between the home type of burner and the commercial. Originally, he noted, commercial-industrial burners were merely large sizes of domestic burners, but they were found not rugged enough to meet the conditions when burning large quantities of oil.

He compared the safety devices used on the two types. A domestic burner with a three-minute safety shutdown, if the oil did not ignite, would be in serious trouble if firing 25 gallons an hour. It is necessary, therefore, to have quick acting safety controls on commercial types. This point is now receiving considerable attention from control manufacturers.

Commercial Burners

Resek compared the economics of the commercial burner vs. the domestic. If a home burned 1,200 gallons of oil, a 2¢ saving by using a heavier oil would be only $24 a year. A medium sized commercial burner can burn 20,000 gallons a year and with a heavier oil expect to get about a 3¢ saving, or $600 a year. The owner would be justified in spending $1,200 to $1,800 for the equipment to burn the heavier oil, in his opinion.

Resek then described for the group the characteristics of five general types of commercial-industrial burners, explaining their best applications.

He talked at some length of self-contained boilers, pioneered by his company. These cover a firing range from 3 to 150 gph. Some industrial applications of these boiler units require very accurate steam temperatures, and here the off-on type of burner is not used. Rather it's a modulating high-low fire principle, so that a very high CO_2 can be held at both positions.

In comparing types of fuels, he believes it more economical to burn a No. 5 oil in burners above 5 gph.

Spade, the fourth member at the forum, had no prepared statement since he had been asked to join the group as a last-minute substitute, but he did provide some interesting extemporaneous talk on the growing need for more accurate selling under conditions of gas competition.

He believes that oilheating companies render better mechanical service than other heating fields and in fact than the general appliance field. People learn that they can depend on our folks and it's time we capitalized on this asset.

Burner service Plan

On request, he described his company's service plan for oilheating. With 97% of the customers served under contracts, the charge is $18 a year plus ½¢ a gallon of oil delivered. This avoids a large annual billing but still gets $28 on a 2,000 gallon account, which is typical of Westchester County.

Spade also explained his company's work in airconditioning, finding it profitable, but more important, believing it necessary to maintain a community standing as "merchants in home comfort."

On the following morning was a panel discussion of "Jobber-Supplier Relations." Moderated by Frank Breese, editor of *National Petroleum News*, the members were B. W. Pickard, president, The California Oil Co., B. L. Ray, vice-president, Esso Standard Oil Co. Also William H. Van Voast, Tryon Oil Co., Johnstown, N. Y., and William F. Kenny, president, Meenan Oil Co., New York. Kenny substituted for Harvey W. Lewis who was ill.

While most of their comments related to gasoline marketing, some of their attitudes affect fueloil, so here are some quotes from each participant:

By Mr. Pickard . . . "Mutual faith creates long time relationships so that both the marketer and the refiner can plan the future. The supplier is responsible for quality and price but the distributor must sell aggressively for their mutual advantage.

"The distributor margin has gone up more than the netback to the supplier. We have made available to our distributors financial counsellors, a marketing analyst and a cost control expert.

"Suppliers should be criticized in some instances—the medium and small commercial account belongs to the distributor."

The local Marketer

By Mr. Ray . . . "The capital limitations of majors have favored distributors lately. There will always be a place for the local marketer on account of his personalized service. Local distributors can obtain much greater volume in a given market than we could direct.

"Esso has set up a reseller board at the management level and in each division to hold meetings with distributors.

"We want better margins, too, for our own sales. Heating oil margins since 1950 are up a cent, generally from 3¢ to 4¢. Gasoline competition will continue cheap—we're studying every improvement for minimum investment, maximum efficiency.

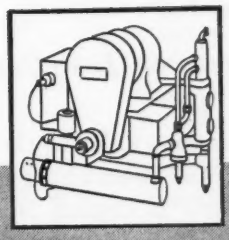
"We don't think the jobber should be out of the commercial field; certainly the small commercial buyer should be available to him. Refiners today are running at 88% of capacity . . . by 1960 the demand should be in balance, then sharp discounts should ease off."

By Mr. Kenny . . . "The present supplier-jobber system is antiquated for fueloil. Majors are primarily wholesalers, not retailers, while the jobber is in a marketing vacuum with too little control. Margins have no relation to the jobbers' cost of doing business.

"It's often hard to convince field men that our problems are real, yet they fill an important need.

"The capital requirements of the marketer are as tough as those of the supplier, without access to the capital

(*Please turn to page* 109)



COMMERCIAL & INDUSTRIAL oilburning

SECTION

fueloil & oil heat

NEW YORK

COMMERCIAL & INDUSTRIAL oilburning

Locations for oil Heaters serving rotary Burners

Five Ways to use indirect fueloil Heaters on Installations having pump-type Oilburners

by Jean L. Dupuis

"SITTING IN MY SHOP are six fueloil heaters which I don't know how to apply to installations I service," an oilburner dealer announced.

"Five years ago, a friend who sells No. 6 fueloil persuaded me to start servicing industrial burners in addition to the domestic burners I've serviced for more than 20 years. Now, cooperating with the fueloil company, my servicemen are taking care of some 300 horizontal rotary-cup burners of about eight different makes. Almost all of them use No. 6 oil.

"Handling 19 out of 20 service calls is easy, my servicemen tell me, for it includes such things as routine adjusting of flames and controls, and telling apartment house superintendents to clean their boiler flues, atomizing cups, and fueloil strainers.

"I've got just one serviceman who really knows industrial oilburner servicing backwards and forwards. When my other servicemen get stuck working on electronic safety controls, or on a big burner that really needs complete rebuilding, this one serviceman —the expert on industrial burners— takes over.

"About a year ago," the burner dealer went on, "This industrial burner expert replaced a small fueloil heater with a much larger heater. The result was such a tremendous improvement in the performance of the burner that we went wild with enthusiasm and ordered six more heaters just like the one that had worked wonders for us. Certainly, we reasoned, the 300 burners using No. 6 oil, which we service, will need six big fueloil heaters in a year.

"Every job we study, with the purpose of improving its fueloil heating in a hurry by installing a new, high-capacity oil heater, now turns out to be different."

What he needs to know, the dealer concluded, is all about adding indirect fueloil heaters to existing No. 6 oil installations. He had in mind, it developed, low-pressure steam heating boilers working year-round because they have tankless water heating coils. He also had in mind under-the-waterline indirect fueloil heaters, for that's the kind he had stored in his shop.

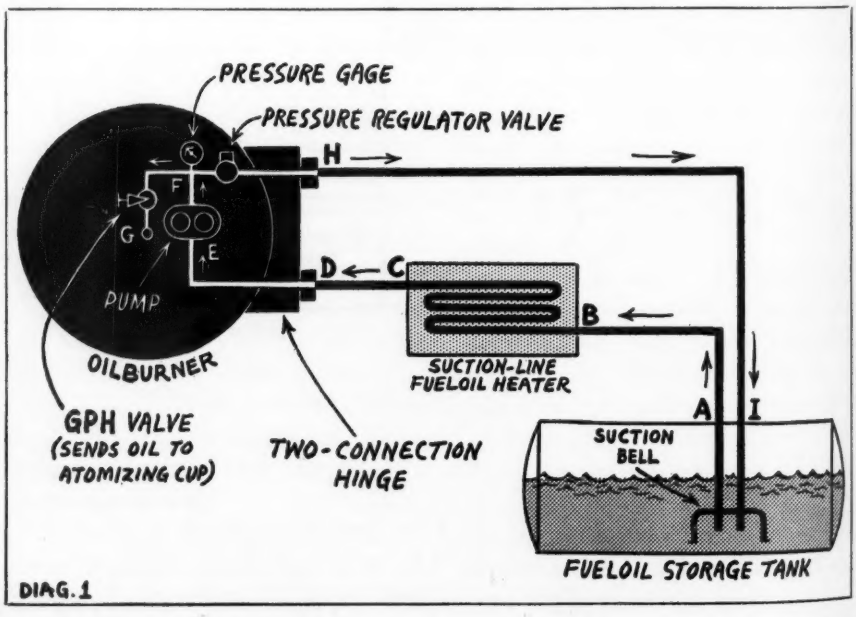
"You have found out," I told this dealer, "that improving the fueloil-heating arangement of an old installation is not as simple as you first assumed. On just one installation, you improved the oilburner performance greatly just by replacing a small oil heater with a much larger heater. Perhaps you concluded that replacing a small heater with a large heater is as simple as replacing a 50-watt light bulb with a 100-watt bulb.

"You should take time to study all the modern methods for heating oil on No. 6 oil installations," I said to the dealer. "Study how to use electricity in several different ways to heat No. 6 fueloil; you can install automatic, self-contained electric oil heaters, or electric systems that apply heat to your suction lines and return lines directly by flowing low-voltage electricity through them. Heating cables, wrapped around fueloil lines, also can heat oil lines electrically.

"Then, also, you can use small boilers fired by light fueloil or by gas, to provide steam or hot water for indirect fueloil heaters."

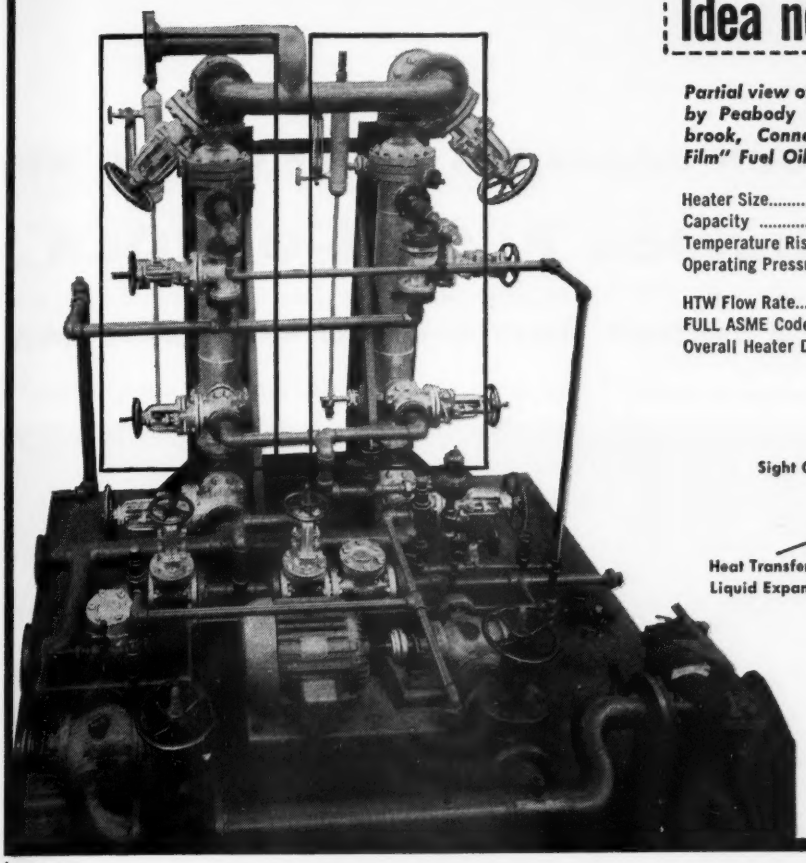
The dealer sadly acknowledged these points, but still wanted complete information on the different ways to apply indirect, under-the-waterline fueloil heaters to low-pressure steam boilers. After all, he said, he had on hand six such oil heaters and if possible he wanted to install them on jobs which needed them.

To fulfill his request, I made four sketches similar to the accompanying drawings, which showed five ways to use indirect oil heaters on the types



Diag. 1—This burner has only one pump and has a pressure regulator valve and a needle valve for adjusting the gph burning rate. A burner can have a two-connection hinge of the kind in the drawing, however, and have a primary pump and a secondary pump in a burner-mounted reservoir—and can have a highly developed "viscosity system" or similar system to control its gph firing rate.

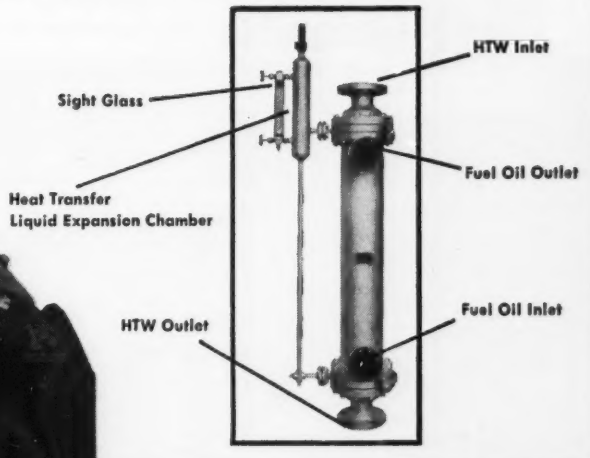
CUT ALONG DOTTED LINE AND SAVE



Idea no. 2 from Paracoil

Partial view of pump and heater set fabricated by Peabody Engineering Corporation, Glenbrook, Connecticut, utilizing two "Thermo-Film" Fuel Oil Heaters of these specifications:

Heater Size	FF-48 HTW "Thermo-Film"
Capacity	7500 lbs. No. 6 oil per hour
Temperature Rise	80°F to 210°F
Operating Pressures	300 psi, water side 315 psi, oil side
HTW Flow Rate	100 GPM at 370°F
FULL ASME Code Construction	
Overall Heater Dimensions	15" x 6'-6"



How to use High Temperature Water directly in a #6 oil heater...without danger of system contamination!

The Problem

The pre-heating of #6 fuel oil with High Temperature Water to provide adequate oil temperature and eliminate possibility of leakage of fuel oil into the HTW stream.

Leakage of fuel oil into the HTW stream would result in contamination of the system and could cause serious and costly damage to the boiler and the entire system.

The isolation of the fuel oil heaters can be accomplished by several methods. For example, the HTW stream may be passed through an evaporator to supply steam for use in a steam-type fuel oil heater. Or, the HTW stream may be passed through an intermediate water-to-water exchanger to heat a secondary water stream circulated through a water-type fuel oil heater.

In both of these systems, the HTW stream is safely isolated from the fuel oil heater by an intermediate secondary circuit. But effective as these methods are, they both require a minimum of two heat exchangers, additional space and additional connecting piping, regulators, level controls, etc.

A New Solution

Now for the first time the Paracoil "Thermo-Film" Fuel Oil Heater furnishes the optimum solution to the problem. **In a single exchanger** the "Thermo-Film" Heater provides adequate oil temperature, isolation of the HTW circuit from the oil circuit, a reduction in space requirements, simplicity of operation and substantially lower initial installation cost. A number of double tube elements are enclosed within the heater shell providing three circuits: the primary HTW circuit, an intermediate heat transfer fluid circuit, and the oil circuit.

The heat flow path is from the HTW to the heat transfer fluid to the fuel oil. In the rare event of an oil tube failure, the free oil cannot contaminate the HTW stream as it becomes trapped in the intermediate space containing the heat transfer liquid, and gives warning to the operating personnel by rising in the indicating gauge glass at the expansion chamber.

Your inquiries for Paracoil "Thermo-Film" applications to HTW systems are invited.

CUT ALONG DOTTED LINE AND SAVE

DAVIS ENGINEERING CORPORATION

30 Rockefeller Plaza, New York 20, New York • Circle 6-5650

THE MARK OF QUALITY

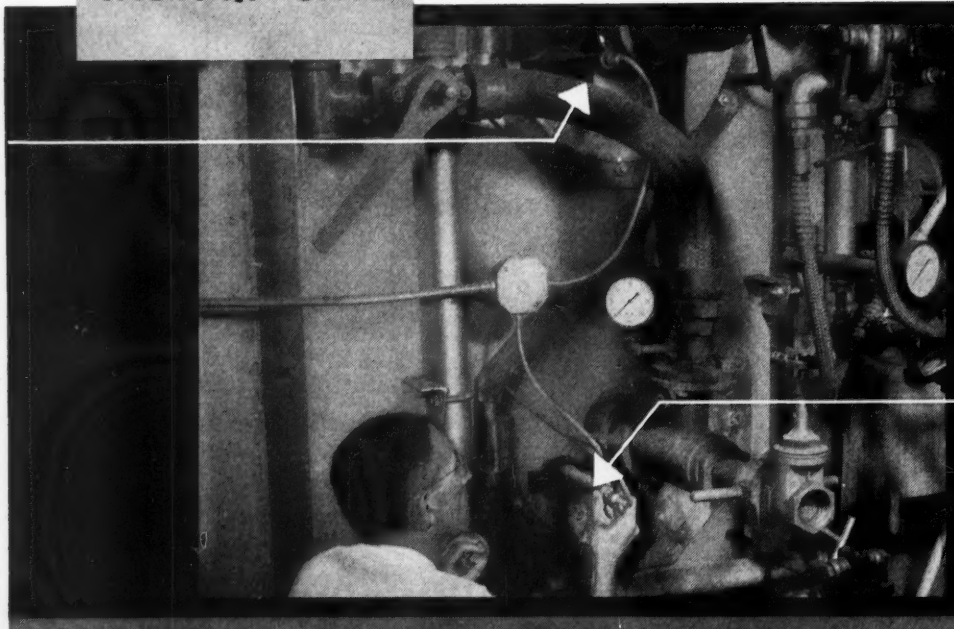
BARBER COLMAN

Wheelco Instruments

a look under the cover shows why

Wheelco FLAME-OTROLS

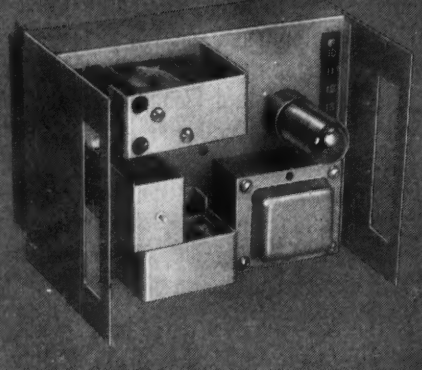
give better flame-failure protection

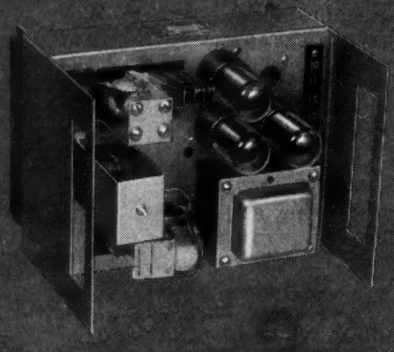


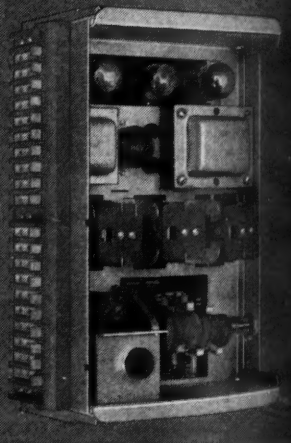
OIL- AND GAS-FIRED FURNACES, BOILERS, KILNS, AND DRYERS RELY ON COMPLETE LINE OF ELECTRONIC COMBUSTION SAFEGUARD SYSTEMS

Arrows indicate Wheelco lead-sulphide Flame-eye used on industrial-type combination oil-gas burners.

Wheelco Flame-otrol Plug-in Chassis







Model 1470 (manual-starting)
CONDUCTIVITY RECTIFICATION "CR" SYSTEM

. . . takes advantage of the unique features of a flame being able to conduct a small amount of electrical current with flow of electrons in direction of flame being greater than "up-stream."

Model 1570
INFRA-RED "IR" SYSTEM

Uses lead-sulphide photoconductive cell predominantly sensitive to infra-red energy as a flame pickup. It operates in conjunction with a "flame-only" type current when a flame is present and ignores constant bright background effect.

AUTOMATIC OPERATION

Two basic models (1474 and 1574) use same sensing elements as models listed above. Sequence timing for oil- or gas-fired burner or boiler operation includes: purging, warm-up proving, pilot-proving, low-fire stabilization, ignition-timing, and post-purging.

There's no need to "stretch" in order to make a combustion safeguard system fit your exact needs. From Wheelco's complete line you can select *exactly* the right Flame-otrol required by your installation — manual, semi-automatic, or fully automatic.

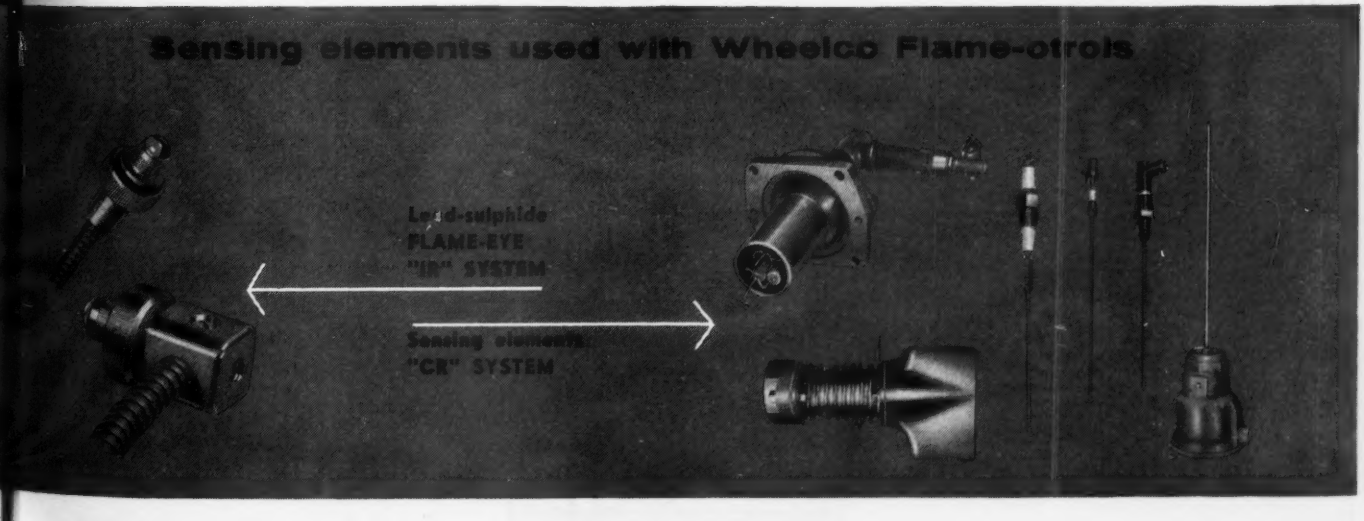
Whatever type of installation meets your requirements best, you'll be assured of getting a unit that's dependable in operation and simple to maintain. First, and foremost, there's the famous Wheelco plug-in design that conveniently enables the entire chassis to be removed for adjustment, examination, and repair.

In addition, convenient checking strips permit checking circuits and voltage with simple and readily available instruments. Standard electronic tubes are used on all Flame-otrol models, simplifying parts inventory and eliminating a possible replacement problem.

Because all Flame-otrol components are housed in a rugged, industrial-type steel cabinet, the unit operates satisfactorily in all types of plant locations. The gasketed, dust-tight, swing-out cover keeps out foreign matter that could impair operating efficiency.

Wheelco Control centers, designed with removable sections to meet changing requirements, are available to house complete combustion safeguard systems. Here, too, significant savings on installation costs and time are assured in a custom-engineered installation.

The quickest way to be sure of having a complete combustion safeguard system designed for your specific needs is to call your nearby Wheelco field engineer and let him analyze your requirements. This "no obligation" survey takes into consideration both economic and technical factors and results in a down-to-earth recommendation that insures you'll get the best possible buy for each dollar invested.



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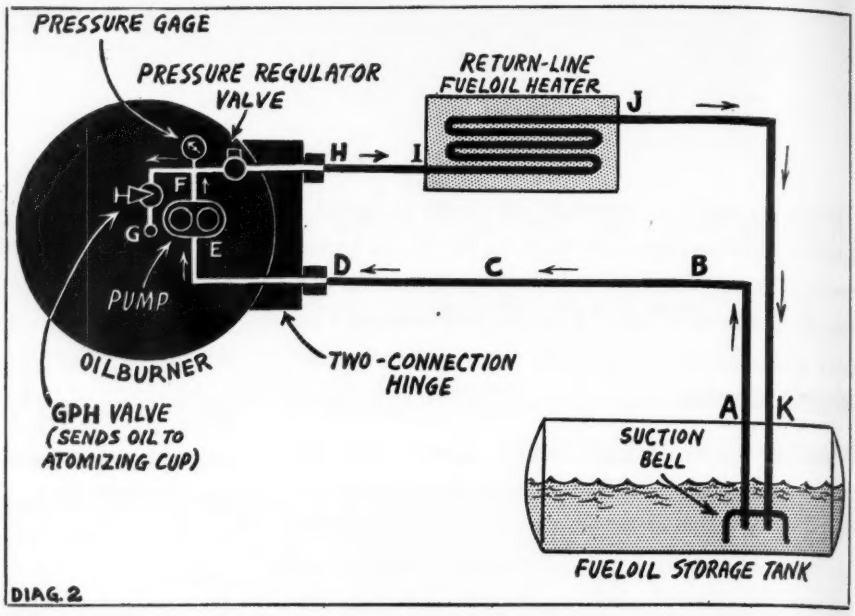
of jobs he had in mind. I did not know, of course, which make and type pump-type rotary-cup burner would be found on each installation the dealer would study—with hopes of applying to it a larger indirect fueloil heater than he found on it, or an additional large oil heater.

Each of the four accompanying drawings shows a suction bell in the fueloil storage tank. Because the bell is installed, all the hot No. 6 fueloil sent to the bottom of the tank goes into the bottom of the suction-line stub, thus provides heat for the suction line.

The return line may give the suction bell hot, returned fueloil at the rate of 40 gph, for example. The suction line may be drawing fueloil from the bell at the rate of 70 gph. Then into the bottom of the suction-line stub will flow hot fueloil, from the return line, at the rate of 40 gph, together with cooler fueloil from the storage tank at the rate of 30 gph. The firing rate is 30 gph in this case, which is the difference between the gph rate of the suction line and the gph rate of the return line.



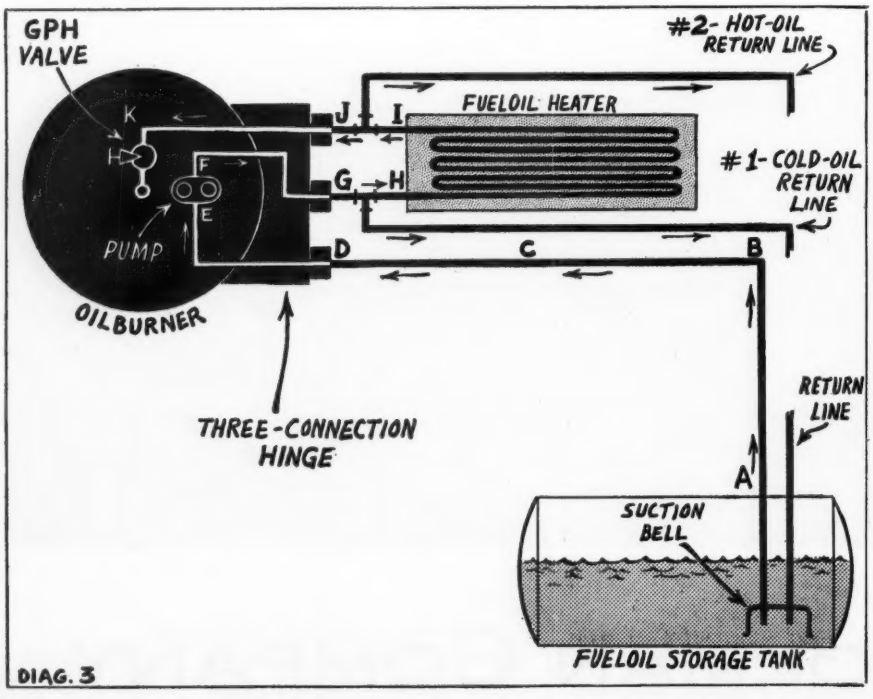
Diag. 2—Because set-ups like this provide little heat for the fueloil that flows to atomizing cups, they are not suitable for installations on which high cup-line temperatures are needed. A return-line heater often is added to an installation which has other heaters—specifically to give great amounts of heat to the suction line, via the return line.

Instead of installing a suction bell, some dealers install a 2″ pipe within a 4″ pipe. The 2″ pipe serves as the suction line; its open end may be 5″ to 8″ above the bottom of the oil tank. The hot fueloil returned to the tank travels down to the bottom of the tank through the space between the 2″ pipe and the 4″ pipe.

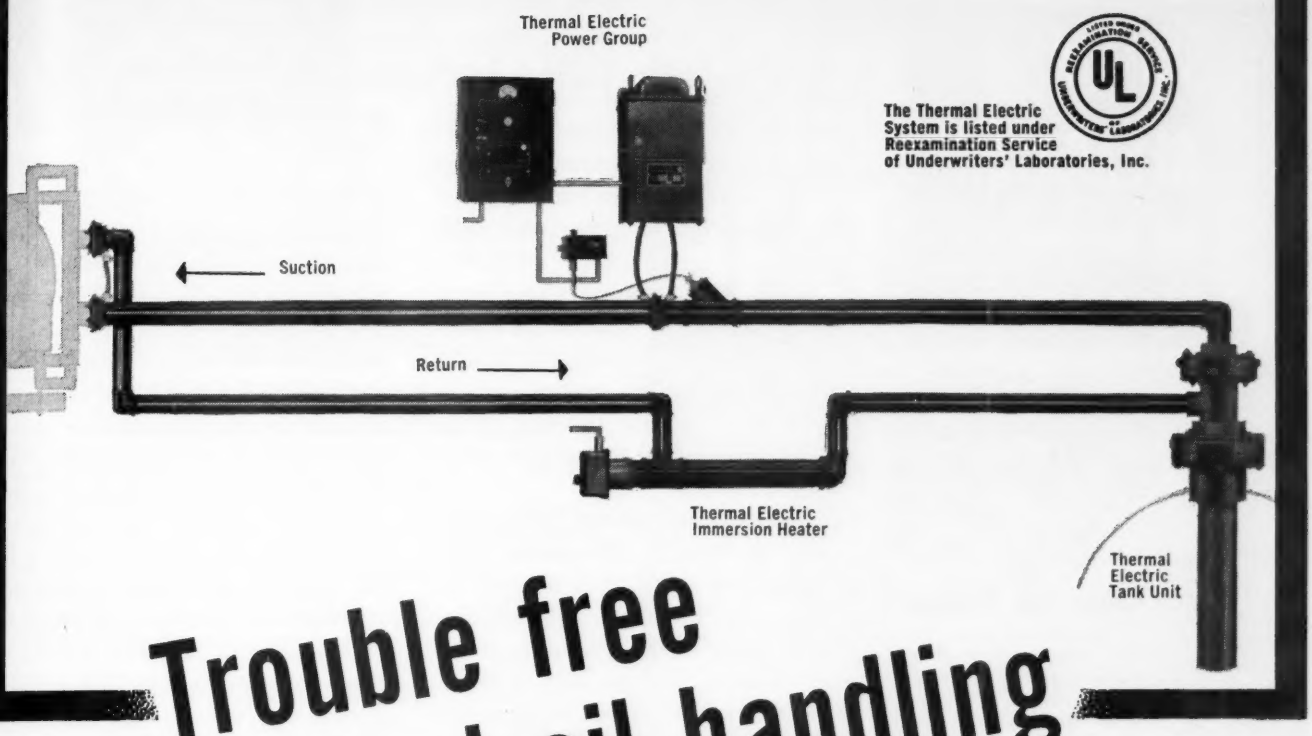
The bottom end of the 4″ pipe is about 2″ or 3″ lower than the bottom end of the 2″ pipe. Within the tank, at the upper end of the 4″ pipe, is a small drilled hole to permit air to escape. Instead of being 2″ pipe size, the suction-line stub of such a pipe-within-a-pipe arrangement can be 2½″ size, with the outer pipe the same 4″.

For simplicity, the four accompanying drawings contain no oil-line thermometers, suction-line vacuum gages, hand shut-off valves, check valves, etc. Working on an installation, a dealer of course makes certain it has all the specialties of these types which it needs. Thermal insulation for lines containing warm or hot fueloil is not shown either in the four drawings, though highly effective insulation is needed on actual installations.

Automatic, electrically operated shut-off valves are in the oil lines to the atomizing cups of automatic rotary burners, but are not shown in the drawings. Also not shown are the cup-line automatic electric oil heaters, required by UL for horizontal rotary-cup burners which are automatic and



Diag. 3—Connect the oilburner end of the return line between "G" and "H," and the fueloil heater in this drawing sends no heat to the return line and suction line; the ideas in Diag. 1 or Diag. 2 can be used then to heat these lines. Connecting the return line between "G" and "H" causes the fueloil heater in the drawing to heat only the fueloil that flows to the atomizing cup through the gph valve shown above. Great flexibility is gained by using one heater sized to heat to the proper temperature the fueloil that flows to the atomizing cup, and another heater to give the suction line and return line precisely the amount of heat they need.



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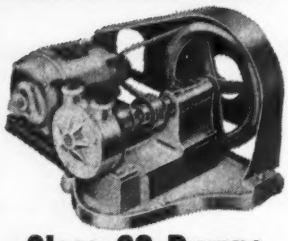

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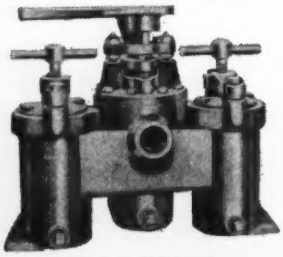

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are UL listed to burn No. 6 fueloil.

Different commercial-industrial burner experts have widely different ideas about proper heating of No. 6 oil on automatic installations. The following discussions of the four drawings are intended to bring out some of these different ideas, but are not intended to enhance some and belittle others.

Diag. 1 is a simple arrangement which includes an indirect oil heater in the suction line where it simply heats all the fueloil pumped—all the oil that goes to the burner's pump, hence of course all the oil that comes from the pump.

After coming through suction line "A-B" in Diag. 1, the fueloil flows through line "C-D" at a temperature of, say, 120°F. on an installation having a burner of the type in the drawing. That's a burner with a single, simple fueloil pump, and with the two-connection hinge in the drawing.

The first function of the oil heater in Diag. 1 is to warm the fueloil before it reaches the pump. The second function of the heater is to provide warm oil for the atomizing cup. The third function is to warm the fueloil which will go through return line "H-I." Warm, returned fueloil provides the suction line with the only heat it receives.

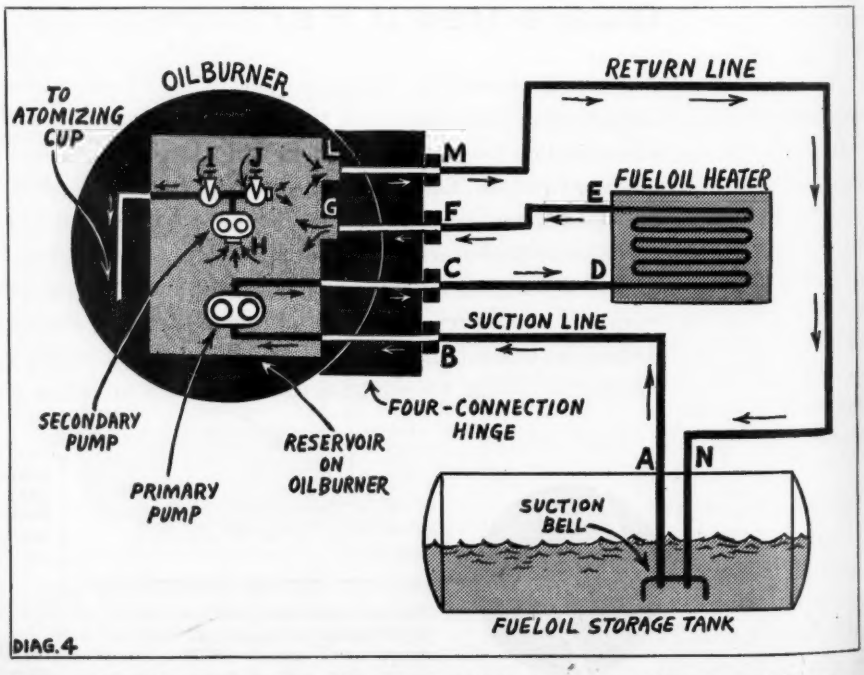
COMMERCIAL & INDUSTRIAL oilburning

An argument in favor of the principles shown in Diag. 1, which was advanced for the first time many years ago (but which I personally have not heard spelled out often in recent years) ran like this: The best rotary-cup burners atomize No. 6 oil so well that the oil that flows to their atomizing cups needs no higher temperature than is needed to permit it to flow easily through their suction lines.

A particular sample of No. 6 oil, the argument goes, may need heating to 130°F. for easy flow through the suction line and the pump of a burner, this argument goes, and an excellent burner can atomize this oil so well (though the oil is heated to only 130°F.) that higher cup-line temperature gains nothing—does not improve atomization or produce better readings from combustion-testing instruments.

Especially in recent years and because No. 6 fueloil has in general become heavier and heavier, strong arguments have come up against the arrangement in Diag. 1.

The strongest of these, in the words



Diag. 4—Now in recent years, the idea of a four-connection hinge is used by more than one manufacturer of rotary-cup burners. The "splitter system" for regulating the gph firing rate is used here; the positive displacement method could be used.

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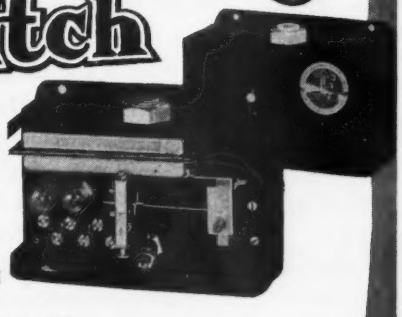

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of one designer of rotary-cup burners, goes like this, "Heat the suction-line fueloil above 120°F. or 130°F. (depending on the qualities of the No. 6 oil delivered to the particular installation, and depending on the amount of vacuum in the suction line) and you cause the suction-line fueloil to vaporize on many installations; you cause the burner's oil pump to act as though it becomes air-bound as the result of suction-line air leaks. That's because oveheating fueloil in a suction line, and under considerable vacuum, gasifies it—turns to gas the most volatile parts of the No. 6 oil.

"Though 120°F. or 130°F. therefore is the highest temperature suitable for suction-line fueloil, for best combustion the atomizing cup must receive oil heated to much higher temperatures."

The engineers of one well-known manufacturer of rotary-cup burners tell me they know of burners on actual installations which perform best only when given No. 6 oil heated to 180°F.

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Another specific argument advanced against Diag. 1 is: With the burner idle for five minutes and therefore with no flow of oil through an under-the-waterline heater arranged as in Diag. 1, the fueloil in the tubes of the heater will be overheated; it may reach a temperature nearly as high as 212°F. This will cause gasifying of the fuel-oil in the heater's tubes when the burner starts up again, together with vapor-locking of the burner's pump.

Men in favor of Diag. 1 come back with these arguments:

First, open the cup-line automatic shut-off valve about 20 seconds after the burner motor starts—to avoid start-up gasifying trouble of the type just described.

Second, use the suction-line heater in Diag. 1 only for modern burners having two-stage pumps located in reservoirs—and the suction-line heater can be used to produce fueloil temperatures high enough for excellent atomization.

Recently an engineer in favor of this line of thinking showed me half a dozen installations he had laid out, with high-capacity suction-line heaters and burners equipped with two-stage pumps and reservoirs.

He proudly pointed to burner-input fueloil thermometers (in location "C-D" in Diag. 1) which read no lower than 145°F. on any of these installations, and which on some read as high as 155°F. and 160°F.

He said, "If the fueloil is gasifying in the suction lines or primary pumps of these installations, that's having no effect on the secondary pumps—that's certain because the flames are not unsteady, but are as steady as any you've seen, and the needles of the gages reporting on secondary-pump pressure are motionless, not giving dips you would see if the secondary pumps handled air or gasified fueloil.

"But it appears that the 145°F. to 160°F. fueloil in the suction-line heaters and primary pumps is not gasify-

ing at all, for the needles of the suction-line vacuum gages never dip on these installations. These vacuum-gage needles definitely do dip and quiver if the burner's primary pumps receive either air or gasified fueloil from the suction lines."

Factually, then, certain engineers advance strong arguments, which seem to have excellent foundations, against the ideas in Diag. 1. But on the other hand, today many dealers are using suction-line under-the-waterline heaters, as shown in Diag. 1, on installations having burners with two-stage pumps and reservoirs. Some of these dealers are installing indirect suction-line heaters so large as to have fueloil-output temperatures as high as 160°F. —these maximum fueloil temperatures are reached on coldest days when the burners run many hours a day, and following early morning start-ups may run steadily for two or three hours.

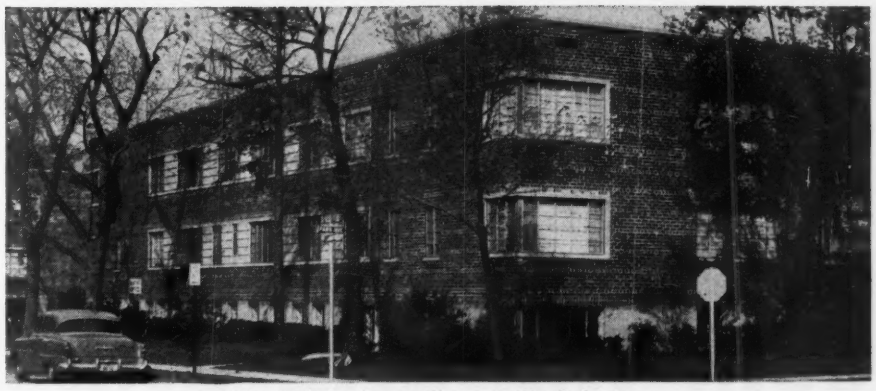
Return-line Heaters

In certain cities, many installations using No. 6 fueloil have return-line fueloil heaters of the type in Diag. 2. The men who planned these installations clearly were determined to avoid the troubles, described earlier, of fueloil gasifying in suction-line heaters, and vapor-locking of pumps in burners.

The set-up in Diag. 2 simply can't give these troubles, even if the oil leaves the return-line heater as hot as 200°F., which of course it doesn't on typical installations.

Eight years ago, a dealer showed me a few installations, which he had completed years earlier, equipped with return-line heaters. With the burners cycling on-off as usual during 20°F. to 30°F. weather (the design temperature in this city is zero), fueloil left the return-line heaters at between 130°F. and 150°F. on different installations. The dealer's design temperature was about 140°F., he said. Because suction-line details were greatly different on the different jobs we visited, we saw suction-line thermometers reporting as low as 90°F. and as high as 120°F.—as the temperature of the oil coming in from the tanks and going to the burners.

When the dealer and I visited these



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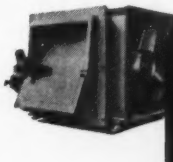

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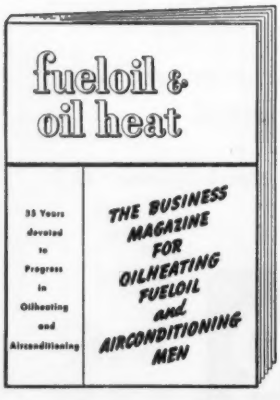
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jobs eight years ago, he said that they had performed well when he first installed them, for then exceedingly light No. 6 oil had been delivered to them. Later the delivery of heavier No. 6 oil, he said, made him switch away from the idea of installing only return-line heaters.

Still all right today, however, is the idea of installing a return-line heater —if you intend it only to boost the temperature of the return-line oil greatly, so that this in turn boosts greatly the temperature of the suction-line oil.

Following that line of reasoning, you can install a return-line heater on an existing installation to end suction-line high-vacuum trouble caused by insufficient suction-line temperature. At the same time, you'd insulate fully the suction line and the return line, if they have been uninsulated and if insulating them now is feasible.

Although you may, then, install a return-line heater for the preceding reasons, the installation you improve in that way would need another heater, according to the thinking of most oilburner engineers, to heat the No. 6 oil sufficiently for excellent atomization.

Three-connection Hinge

The burners in Diags. 1 and 2 have two-connection hinges, but the burner in Diag. 3 has a three-connection hinge.

Men who aim for exceedingly high oil temperatures for the oil flowing to the atomizing cup may use the idea in Diag. 3—particularly if they are determined to avoid pumping trouble that can be caused in certain burners by excessive suction-line temperatures. If you connect the return line between "G" and "H" in Diag. 3, the fueloil flowing to the cup can be as hot as 160°F. or even 180°F., for the heater will be serving to heat only the oil that goes to the atomizing cup. Under pressure developed by the burner's pump, the oil in the heater will not tend to vaporize.

Thinking along those lines, having the heater in Diag. 3 handle only fuel-oil flowing to the cup, you would probably provide heat for the suction line and the return line by using also a suction-line heater (as in Diag. 1) or a return-line heater (as in Diag. 2).

This approach gains much flexibility. Using a suction-line heater, you can have suction-line fueloil enter the burner at between say 90°F. and 130°F.—at any in-between temperature that pleases you. Using a return-line heater, you can have its oil-output temperature at 120°F. or 150°F. or any temperature between these. At the same time and using either a return-line heater or a suction-line heater, you can design to have the fueloil flow to the atomizing cup at any design temperature that pleases you, say as low as 140°F. or 150°F., or as high as 160°F. or 180°F.

The above thinking all is based on connecting the return line (which will go out to the fueloil storage tank) be-

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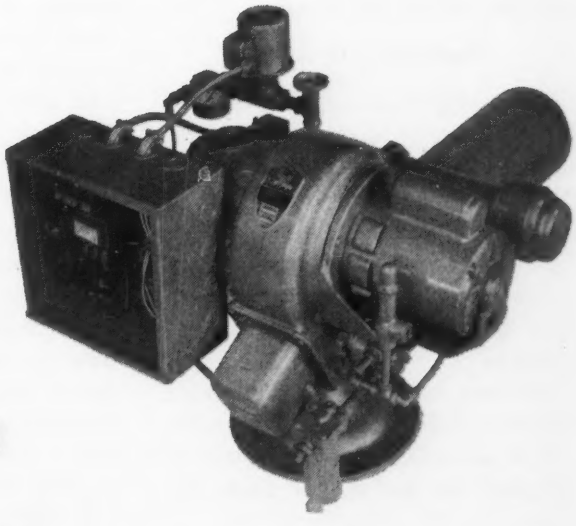

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tween "G" and "H" in Diag. 3.

Instead, you can connect the return line between "J" and "I" to cause all of the fueloil pumped to go through the heater. That makes the set-up similar to Diag. 1, for then all the fueloil that goes to the burner passes through the oil heater. But the use of Diag. 3 and the return-line connection between "J" and "I" avoids any possibilities of oil flashing into vapor in a suction-line heater. It invites heating all the fueloil pumped to especially high temperatures, to higher temperatures than some engineers find give troublefree operation on jobs having only suction-line oil heaters.

The burner with four hinge connections, in Diag. 4, was designed by engineers who believe the heaviest No. 6 oil likely to be delivered today must be heated to temperatures much higher than are ordinarily produced by suction-line indirect oil heaters.

Engineer's Opinion

According to one engineer who follows this line of thinking, in the past many installations used relatively light No. 6 fueloil, which could be well atomized if heated to only 135°F. before it went to an atomizing cup. Only a few, lucky burner owners receive such No. 6 fueloil today, says this engineer.

He says the heaviest No. 6 fueloil delivered today is as heavy as fueloil can be according to the Commercial Standard for fueloils. He backs this up with figures which he obtained from an independent oil-testing laboratory, after he sent the laboratory a sample of the No. 6 oil actually being delivered by a large retailer of industrial fueloil.

The viscosity of this oil sample was 295 seconds Saybolt Furol at 122°F., whereas 300 seconds, same basis, is the maximum viscosity for No. 6 oil according to the Commercial Standard.

On a basis of 295 compared to 300, says this engineer, the No. 6 fueloil this oil company delivers is practically as viscous as it legitimately can be!

This engineer and others who agree with him declare that such viscous No. 6 fueloil must be heated to about 185° F. before it goes to the atomizing cup of a rotary burner.

High temperature Fueloil

Men who think that way are impressed by the arrangement in Diag. 4.

Here, all the fueloil pumped is heated. In the fueloil heater, where its design temperature may be as high as 185°F., the fueloil is not under vacuum. It's under slight pressure, equal to the reservoir pressure or the pressure at the burner end of the return line.

All of the well-known benefits of having a primary pump and a secondary pump within a burner-mounted reservoir are gained by the arrangement in Diag. 4. Obviously using this arrangement and designing for exceedingly high cup-line temperatures causes the return-line temperature at the burner to be exceedingly high also, for the return-line temperature at "M" is as high as is the temperature of heater-output line "E-F," considering the heat losses of the well-insulated oil lines as negligible.

The four drawings make clear that on jobs using No. 6 fueloil oil heaters can be located:

1. In a suction line through which passes all of the fueloil on its way to the suction-line pump in a pump-type burner.

2. In the output line of the pump that draws the oil to the burner.

3. In the cup-line of a burner, where it will heat only the oil flowing to the atomizing cup.

4. In the burner's return line, where it will raise the temperature of the oil going from the burner to the tank.

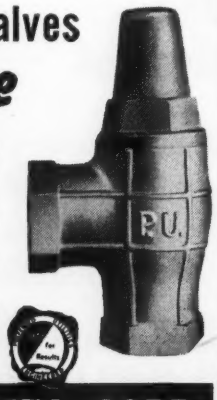
Two schools of thought are brought out by the four drawings.

First comes the line of reasoning that a heater located in a suction line should not increase the suction-line temperature above a certain temperature, pinpointed at 120°F. or 130°F. by many engineers who think this way. But for excellent atomization and maximum efficiency the fueloil flowing to the atomizing cup should be heated much more, to temperatures of 150°F. to 165°F. according to many engineers, and as high as 185°F. according to a few engineers.

No pumping Difficulties

Second line of reasoning: Suction-line temperatures in the range of 130° F. to 145°F. or 160°F., and produced by suction-line oil heaters, cause no pumping difficulties in burners designed for them, and the fueloil flowing to the atomizing cup can be burned at maximum efficiency if heated to no higher temperature than is a trouble-free suction-line temperature.

Preferred Anti-Syphon Valves
Meet Every Code



Non-Adjustable—Angle Type for convenient installation. Heavy Bronze Construction. Approved by Underwriters' Labs., Inc.

TYPE A—1¼" to 3". Maximum capacity to 1000 G.P.H., with #5 and #6 oil.

TYPE B—¾" and 1". Maximum capacity to 100 G.P.H., for #1 to #5 oil.

TYPE C—⅜" and ½". Maximum capacity to 30 G.P.H. of #1 to #3 oil.

Write for Bulletin 1619

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY Dept. OH NEW YORK 23, N. Y.

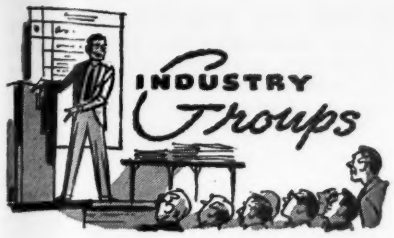
You Can Improve Your Selling Technique . . .

"THE SELLING MAN"

BY W. A. MATHESON

The one who reads this book, whether he is just starting or whether he has been selling for many years, can gain knowedge of sales techniques. Each hard fact is based upon tested sales principles. Only $4.00 per copy. Send remittance to:

2 W. 45th St. **Fuel Oil & Oil heat** N. Y. 36, N. Y.



Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to the editor by the 5th.

Nationwide Publicity Program inaugurated by national OHI

OHI OF AMERICA has inaugurated a nationwide program of public relations designed to increase favorable conditions for the marketing of fuel-oil and oilfired equipment.

The program, being administered by the headquarters office of Oil-Heat Institute of America, Inc., New York City, is under the policy guidance of the OHI Public Relations Committee headed by Frank R. Brophy. His committee has authorized the employment of a professional public relations counsel in the activation of their program.

The public relations counsel is responsible for contacting the major national wire services which furnish news and feature material to the nation's newspapers, for contacting national popular magazines in the shelter, women's service and home mechanic fields, producers of network TV and radio shows, and editors of trade publications to secure publication and broadcast of oil heat stories in all of the above media. The counsel will mail press releases and articles direct to newspapers over the country having circulations in excess of 15,000 and will service OHI chapters with a special periodic "clipsheet" containing press releases and articles, which can be turned over to local newspapers and broadcasting stations.

Factual and objective public relations stories to be circulated will provide tips to the oil heat customer on how to reduce fuel bills, how the degree-day system works, new developments in oilheating equipment, oil heat transport and storage facilities, and pertinent data demonstrating the cleanliness of oil heat.

The Oil Heat Industry News Bureau with offices in Baltimore, Md. has been established by OHI of America. Decision to set up the news bureau was made at a recent meeting of OHI's Public Relations Committee.

OHI's committee chose the Baltimore location because the activities of the news bureau will be tied up with an overall public information program for the national OHI and its chapters for which Mahool-Myers Assoc., a Baltimore public relations firm, has been retained.

Westchester Oil Trade Assn. hosts N. Y. sales Conference

THE WESTCHESTER Oil Trade Association held an all-day sales conference at the Glen Island Casino, New Rochelle, N. Y., and invited salesmen from all of the metropolitan area.

About 200 attended and heard four speakers advance suggestions for sales methods and conservative forecasts for the future of oilheating.

The opening speaker at the morning session was Robert Gray, of FUEL-

Season's Greetings

MAY THE NEW YEAR BRING

PEACE

GOOD WILL

AND

PROSPERITY

Hago

PRECISION NOZZLES

1120 GLOBE AVENUE

MOUNTAINSIDE, NEW JERSEY

Pictured with Norman Kass, New Rochelle, chairman, Oil Industry Sales Conference sponsored by Westchester Oil Trade Association, are left: Ray Nathan, Freeport, N. Y. and Robert Barr, OHI of Long Island.

OIL & OIL HEAT, New York, who emphasized the point that selling is the whole answer to oilheating and fuel-oil prosperity.

He noted that the oil industry gets a lot of attention for its more dramatic phases, production, refining and the like, while the sales departments are less photogenic and too much taken for granted.

He compared the much publicized phases of the oil business to long shots on a golf fairway but insisted that the game is won or lost on the green.

He followed with a chart talk on the industry's growth and its potential, including a demonstration that oil can provide what the customer knows he wants in fine heating.

The next speaker was Ray Nathan of the Ray Nathan Fuel Co., Freeport, New York, who spoke on "No Place for Complacency." These are typical quotes:

"You make the seasons; you can sell just as many oilheating jobs in January and February as in August and September if you'll work as hard.

"You're either a part of the problem or a part of the solution. Our industry constitutes its own problem; there are no miracles, just hard work.

"Develop a team spirit; call them associates, not employees, then pay them."

"We replace 15 gas jobs a year; they cost a lot to run when they're put in badly. If a prospect says the price is too high he's had it before he's heard the real story."

Salesman's Manual

Robert Barr executive secretary of the Oil Heat Institute of Long Island next appeared on the program and demonstrated to the audience a manual for salesmen of oil heat. This was developed for OHILI members but will later be available to the industry.

In simple terms and illustrations this manual shows the prospect the eight favorable characteristics of oil-heating.

Sinclair's
Four Ways to Help You
BOOK MORE BUSINESS

Sinclair Heating Oil is kept at the peak of trouble-free performance through continuous research and improvement at Sinclair's laboratories at Harvey, Illinois.

Hard-hitting advertisements promote Sinclair Heating Oil for Sinclair Suppliers. Ads run where they count most — at the local level.

New profit-making sales ideas are presented in a special sales training program.

Sinclair's tremendous production and storage facilities guarantee Sinclair Suppliers a dependable source of supply.

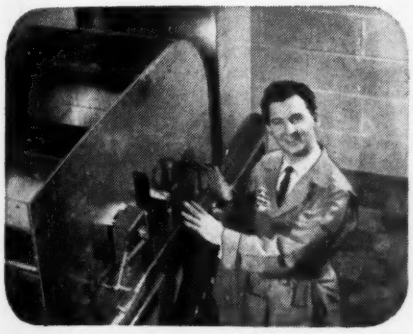
Get the most out of *your* business with Sinclair Heating Oil containing RD-119®. Write today for details. Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.

SINCLAIR HEATING OIL with RD-119

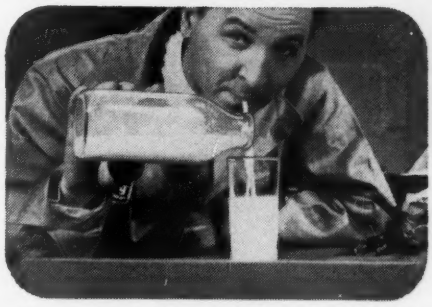
NEW Promotion Ideas

NEW TELEVISION-RADIO AD PACKAGE STARRING EDDIE BRACKEN BUILDS UP WATERBURY DEALERS!

Waterbury offers you the opportunity to tie in with one of America's best-known, best-liked personalities, Eddie Bracken. On radio, television and in promotional materials, he commands attention, directs prospects to you and opens the door to easier selling. And he really has something to sell when he helps you sell Waterbury.



In a series of TV films available to dealers, TV-movie star Eddie Bracken plays the part of a Waterbury dealer.



He demonstrates how Waterbury COMFORTROL Heating feeds heat into a home at exactly the same rate it leaks out.

And he tells the story of how Waterbury's factory training program makes Waterbury dealers real "comfort engineers".

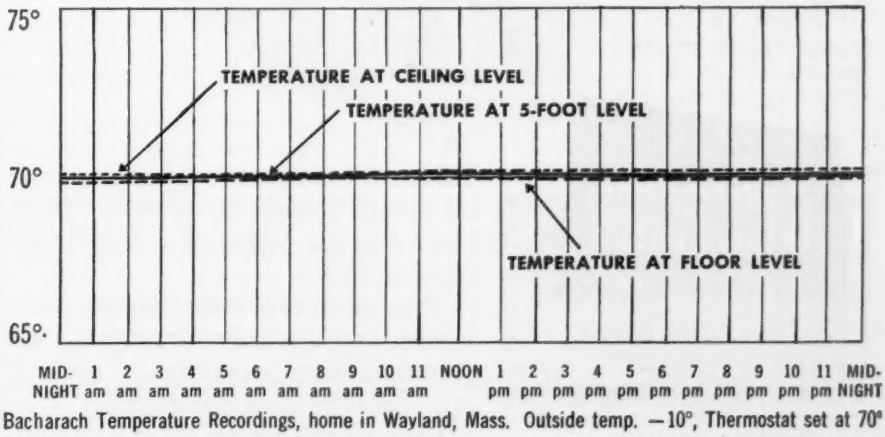
WATERBURY HELPS YOU SELL:

- Recorded radio spots with Eddie Bracken.
- Eddie Bracken featured on direct mail pieces available to dealers.
- Complete kit of newspaper ad mats
- Outdoor and Indoor Display Plans
- 'Selling in the Home Plan'—most complete plan to nail down replacement sales. Dealers report the plan increases volume 30-200%!
- Dealer Education Plan—year 'round field conferences, factory schools keep dealers up-to-date on everything you need to sell!
- Builder Promotions Kits—to help dealers make hay in the new home market.

GO, GO, GROW with WATERBURY!

NEW Product Ideas

NEW WATERBURY *Comfortrol*® GIVES YOU A GREAT PRODUCT THAT MAKES 'EM FORGET ABOUT PRICE!


75°
70°
65°
TEMPERATURE AT CEILING LEVEL
TEMPERATURE AT 5-FOOT LEVEL
TEMPERATURE AT FLOOR LEVEL
MID-NIGHT 1 am 2 am 3 am 4 am 5 am 6 am 7 am 8 am 9 am 10 am 11 am NOON 1 pm 2 pm 3 pm 4 pm 5 pm 6 pm 7 pm 8 pm 9 pm 10 pm 11 pm MID-NIGHT

Bacharach Temperature Recordings, home in Wayland, Mass. Outside temp. —10°, Thermostat set at 70°

YOU SELL HEALTH when you sell Waterbury COMFORTROL. Not only does the temperature remain constant hour after hour—it varies less than 1 degree from floor to ceiling!

IMAGINE HOW THIS CHART CAN HELP YOU SELL!

It's the picture of carefree, constant comfort you can promise when you sell revolutionary new Waterbury COMFORTROL. No more fussing with the thermostat . . . no more bake-one-minute, freeze-the-next heat. COMFORTROL's continuous flow of warm air at just-right temperature assures a new kind of comfort that makes a home owner forget about price. And look to WATERBURY for *more* NEW IDEAS that you can sell!

This is the month to SWITCH TO WATERBURY!

Leo Levene, president, Westchester Oil Trade Association, center, chats with Robert Gray, Editor, Fueloil & Oil Heat, left, and Frank W. Lovejoy, Socony Mobil Oil Co.

With good art work and considerable supporting evidence on each point, this should get sales. Originally 100 copies are being printed for the membership at $20 each which seemed a conservative cost for this large and convincing presentation manual.

Frank M. Lovejoy, Socony sales executive, spoke after the luncheon on salesmanship and merchandising. He pointed out an irony—or weak link—in sales promotion in the lack of follow-through upon the elaborate efforts expended in providing practical and useful selling tools. All too often, these are glanced at by the salesman, then left in the back of the car when sales calls are made.

Actually, he said, effective material of this kind can be a real help in convincing prospects. But, even with such material, a prime requisite for good selling requires the salesman first to sell himself. People like to buy from people they like.

Locations of businesses should be geared to home and habit patterns of the community. "Markets are minds," he continued, and successful sales depend primarily upon effective influence upon people's minds, which obviously is made easier when the business first is geared to already established trading patterns.

Six selling Rules

Lovejoy has boiled down the principles of good selling to these six cardinal rules:

1. Don't talk too much—give the prospect a chance to state his views.

2. Never assume an argumentative manner—it may very well win the argument but lose the sale.

3. Inquire first as to the prospect's feelings. When the information provided is assembled, then an intelligent attack upon his objections may be made and the strong points of your sales talk guided constructively along the desires and preferences voiced by the prospect.

4. Make sure you understand the buyer's objections. Listen carefully and mentally catalog the various

Heat-Resisting Sheared to Size

Advantages of Heat-Resisting Steel Combustion Chambers

- No breakage in shipment or handling
- Lighter weight lowers freight costs
- Quicker heating—greater efficiency
- Cleaner heat—better temperature control

Save time and money by fabricating your oil burner combustion chambers from sheared-to-size Ingersoll heat-resisting stainless steel.

This special steel is correct in analysis to withstand high temperatures . . . consistently uniform in quality . . . and has exceptional forming characteristics.

Ingersoll will custom shear it to your specified blank sizes, or multiples thereof (depending on size). And Ingersoll's flexible facilities are geared to handle large jobs or small ones with speed and precision.

Ingersoll does not fabricate combustion chambers

Write, wire or phone for details

Ingersoll STEEL DIVISION
Borg-Warner Corporation
New Castle, Indiana

WEIL-McLAIN

No. 57 OIL HEATING UNIT

A *CAST IRON* BOILER WITH ALL THE ESSENTIALS FOR FUEL-SAVING EFFICIENCY

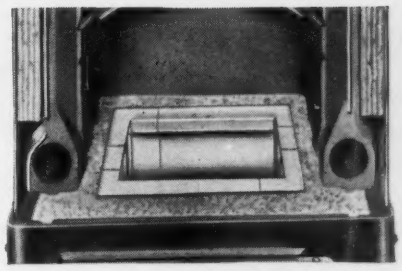
This *cast iron,* corrosion-resistant boiler incorporates Weil-McLain principles of design which have proved their value over the years...plus new features developed by engineering research to produce an exceptionally efficient oil burning boiler.

No. 57 design provides all the essentials for economical operation. Note the extra height and width of the firebox—ample for complete combustion of the oil and with large exposure to radiant heat. Note the double flue galleries—designed to set up a turbulating motion which enables them to extract maximum heat from the gases and keep stack temperature low.

Long life is assured by *cast iron* construction and the Weil-McLain method of assembly with short draw rods which permits free expansion and contraction of the boiler. The sections are not face-ground—the tough corrosion-resistant skin of cast iron is left intact. Spaces between sections are made gas-tight with special cement.

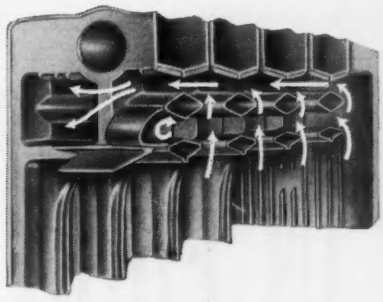
PROVISION FOR YEAR 'ROUND HOT WATER

A built-in water heater, either storage or tankless type, can be installed in the No. 57—saving the cost of separately fired water heating equipment. The heater will provide an abundant supply of hot water, winter and summer.



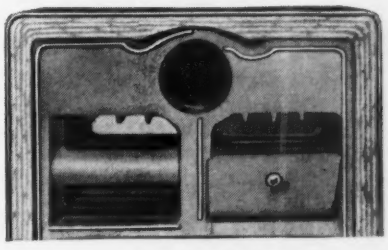
LIGHT WEIGHT REFRACTORY COMBUSTION CHAMBER

Correctly designed to assist the oil burner reach maximum efficiency.



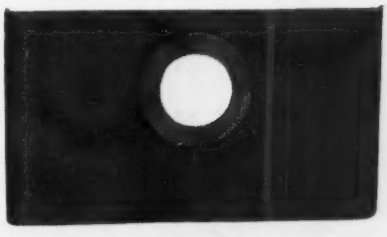
GAS-PORTED CROWN SHEET

Lengthens hot gas travel at most effective point for rapid heat transfer.



DOUBLE FLUE GALLERIES

Developed in Weil-McLain Research Laboratory for increasing the efficiency of secondary heat absorbing surfaces.



FLANGE FRONT

An integral flanged boss on the base front provides a simple, secure method of attaching the burner. The opening is sized to handle all standard sized gun type burners.

For complete information, send for Bulletin No. C-157

WEIL-McLAIN
BOILERS · RADIATORS

WEIL-McLAIN COMPANY
MICHIGAN CITY, INDIANA

Address literature requests to Dept. B-127

points that he raises.

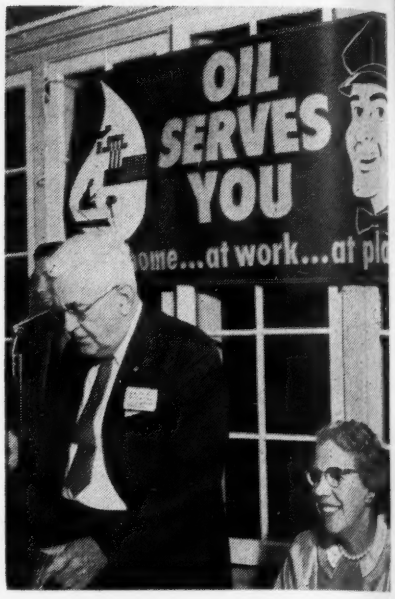
5. Stick to one key issue. Don't wander in your sales presentation but construct it carefully and logically to a selling climax.

6. Ask "why." When the prospect is given an opportunity to catalog his objections, it will force him to think and he will reveal weak spots that can then be overcome effectively.

James E. Grady, executive secretary, Westchester Oil Trade Association, supervised arrangements for the all-day conference.

Southern Maine oil Men hold heating Conference

OIL PROGRESS WEEK in the state of Maine was highlighted by the first Southern Maine Oil Heat Conference held at the Portland Country Club on October 17th. The Maine Oil and Heating Equipment Dealers' Association and the Maine Oil Information Committee planned the conference, which was sponsored jointly by the associations from Augusta-Hallowell-Gardiner, Bath-Brunswick, Lewiston-Auburn, Portland, and Sanford.



Edward P. Hacker, president, Maine Oil and Heating Equipment Dealers Association, welcomes the dealers and suppliers to the first Southern Maine Oil Heat Conference held in October at the Portland Country Club. Mrs. Hacker listens at right.

Speakers on the program were E. J. Pease, API and U. V. Davis, credit manager, Esso New England division. Pease discussed the importance of oil in the American economy.

In the future the conference will be held annually, with a similar one being held for the northern part of the state in February or March.

Oil Equipment Jobbers Assn. elects Anderson, president

THE NATIONAL Association of Oil Equipment Jobbers meeting this fall in Memphis, Tenn. elected H. E. Anderson, Northwest Service Station Equipment Co., president. Elected with him was Vice-president, Fred Coffield, Jr., Coffield Supply Co., South Bend, Ind.

Anderson

Tresaurer, Eugene de Penaloza, General Equipment Co., St. Louis, Mo., was re-elected for a seventh term, with Howard Upton continuing as executive secretary.

New directors chosen at the meeting include Paul E. Norris, Petroleum

(*Please turn to page* 106)

458 NEW CUSTOMERS IN FIRST 117 DAYS!

Reported by **WITHAM'S SALES & SERVICE,** *Hammond, Ind.*

"In cooperation with our refinery supplier, we were one of the first dealers in our area to market HY-TEST 303 Dehydrated Fuel Oil. It has proved to be the greatest sales booster we have ever experienced—far greater than we had dared to hope! We know now that the public is eager to buy a really new and improved product that lives up to its clean burning, money-saving claims."

H. K. WITHAM, *President*

THE EXCLUSIVE HY-TEST 303 MERCHANDISING PLAN IS SCORING SUCCESS AFTER SUCCESS FOR OVER 100 DEALERS, DISTRIBUTORS & REFINERIES!

All over the United States and Canada franchised HY-TEST 303 dealers are winning new customers by offering this revolutionary high-performance red fuel oil at regular oil prices. HY-TEST 303 dealers sell *more* fuel oil because they offer *more* to their customers.

A HY-TEST 303 franchise puts *you* miles ahead of all competition! Additive HY-TEST 303 converts your present oil to a premium product that eliminates heat-robbing soot formation, gels, sludge and corroding condensate. You sell *and deliver* proven SAVINGS UP TO 20% IN FUEL CONSUMPTION! The *exclusive* HY-TEST 303 truck-mounted Dehydrator & Filter is strong visible proof to your customers that they are getting cleaner, water-free oil—a customer-keeper that's impossible to beat!

YOU GET ALL THIS POWERFUL PROMOTIONAL SUPPORT!

• Exclusive use of the HY-TEST 303 trademark • Newspaper ad campaigns with complete mats ready to run • Radio transcriptions and individual commercials • Complete publicity coverage in your area • Truck and equipment decals • Direct mail campaigns • Personal consultation with our marketing experts to develop the program best suited to your needs.

Write today for full details plus reports from other outstanding dealers. Match their *proven* business gains against *any* others and then decide!

HY-TEST 303

JOHN VALK, Jr., President
HY-TEST 303 CORP.
9 Meadow Rd., Rutherford, N. J.

Send me full details of HY-TEST 303 business-building exclusive franchise.

FIRM .....

ADDRESS .....

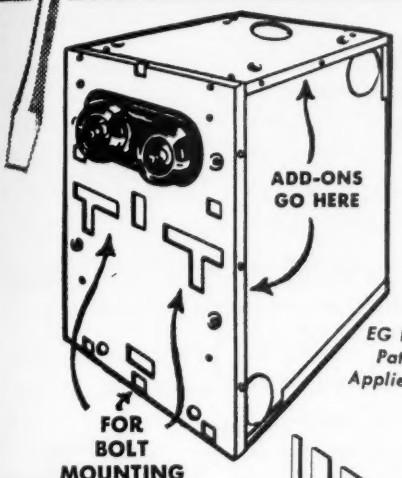
CITY .....STATE .....

BY .....

IF YOU CAN USE A SCREWDRIVER

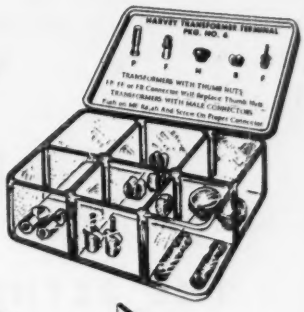
You Can Make 195 Different Transformer *Replacements with Sid Harvey's Package 76

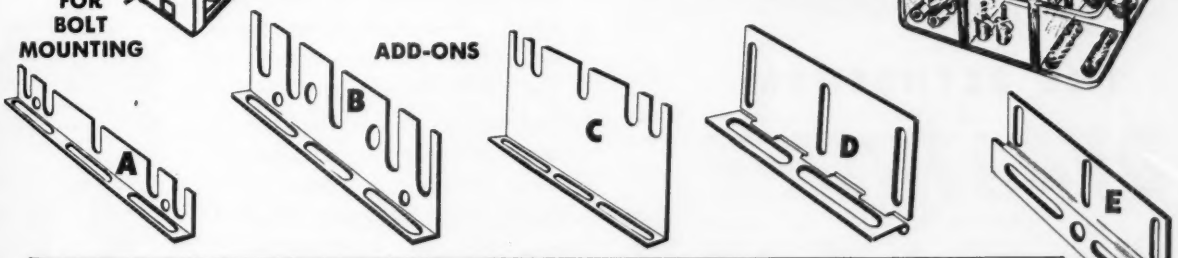
*** Hinge, Bracket, Bolt, Base or Pedestal Mounted. High Tension in End or Base. Male, Female, Bussbar, Plunger or Thumb Nut Terminals. Primary in Base, Top or Either Side.**



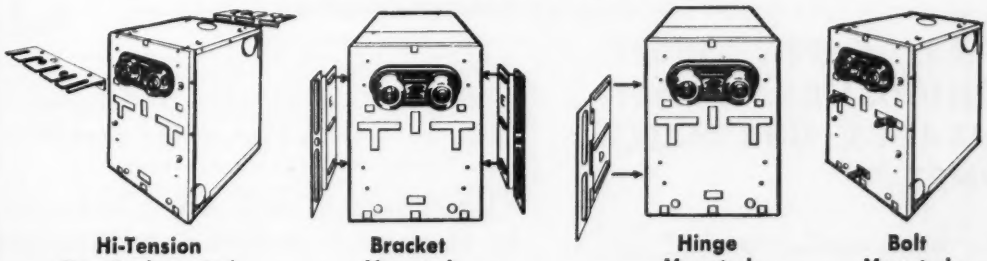
Package Contains:

- 1 TRANSFORMER, 10,000 VOLT. 2 POLE WITH 7 KNOCKOUTS TO PUT LINE VOLTAGE CONNECTIONS WHERE YOU WANT THEM
- 10 ADD-ONS. TWO EACH OF A, B, C, D, & E
- 12 INTERCHANGEABLE HI-TENSION TERMINALS
- 3 BOLTS & WING NUTS FOR BOLT MOUNTED JOBS





METHOD OF MOUNTING ADD-ONS AND BOLTS



A MUST FOR EVERY SERVICE CAR

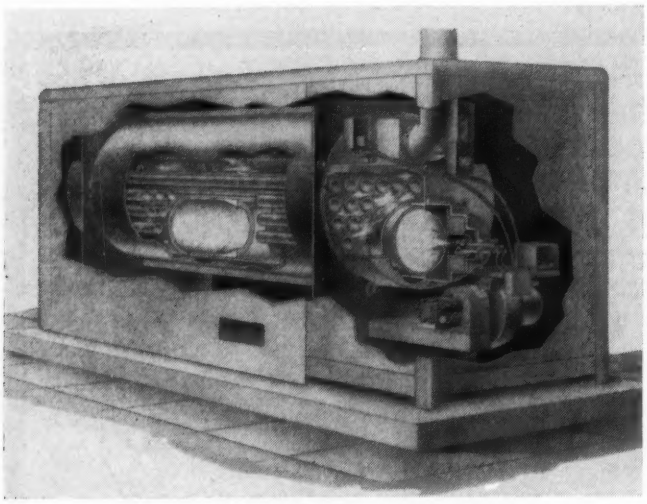
***Trade Price* $18.40**

A screwdriver is all you need to make one transformer an exact replacement for practically any standard domestic transformer. Just pick out the mounting ADD-ONS and terminals that you need and screw them on – right on the job. It makes a permanent and workmanlike job on the first call. Complete instructions with every package.

AVAILABLE AT ALL 45 SID HARVEY STORES

SID HARVEY INC.
VALLEY STREAM, NEW YORK

MR. DEALER . . .
HERE'S NEW PROFIT FOR YOU!



THE BETHLEHEM
DYNATHERM
Model 100

FOR MOTELS, GREENHOUSES, SMALL CHURCHES, APARTMENTS, GARAGES, UNUSUALLY LARGE HOMES

A Single Unit for *All* Their Heating and Hot Water Supply! Delivers 480 Gallons of Hot Water per Hour! Designed by heating engineers and built to A.S.M.E. specifications, inspected and stamped by a qualified Hartford Insurance Inspector, the Bethlehem Dynatherm Model 100 has been thoroughly tested in the field for two years prior to placing on the market! It is a real space saver, too—only 41" high, 31" wide and 78" long. It requires the least personal attention and a minimum of service. Comes completely assembled and tested at the factory—reducing installation cost. 10-year Warranty!

Wire or write immediately for full information!

BETHLEHEM FOUNDRY & MACHINE COMPANY

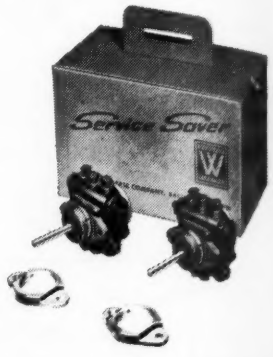
BETHLEHEM, PENNSYLVANIA, U.S.A.

New Products

Each New Products item has an identifying number. If you want more information on any equipment described here send the coupon on page 96 to FUELOIL & OIL HEAT, *2 West 45 St., New York 36, N. Y., and identify the product by circling its number on the coupon.*

Universal replacement fuel-unit Package by Webster Electric reduces Inventory

WEBSTER ELECTRIC is making two new universal replacement fuel-unit packages that can reduce the number of units now required in inventories. With the packages, the serviceman can replace the fuel-unit on any high pressure burner in a few minutes without piping changes. Two single-stage Service-Savers, one clockwise rotation and one counterclockwise, each with a universal mounting bracket are in the carton. Two 2-stage units are packaged in the same manner.

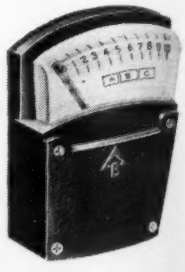


Made by: Webster Electric Co., Racine, Wisc.

Circle E1 on coupon, page 96

FloRet forced air heating Balancer by Bacharach simplifies Adjustments

A NEW instrument by Bacharach simplifies adjustment of residential installations. The FloRet forced air heating balancer is pocketsize, easy to use, and requires no connections. Held against the register, it instantly indicates whether air flow is within the comfort range.

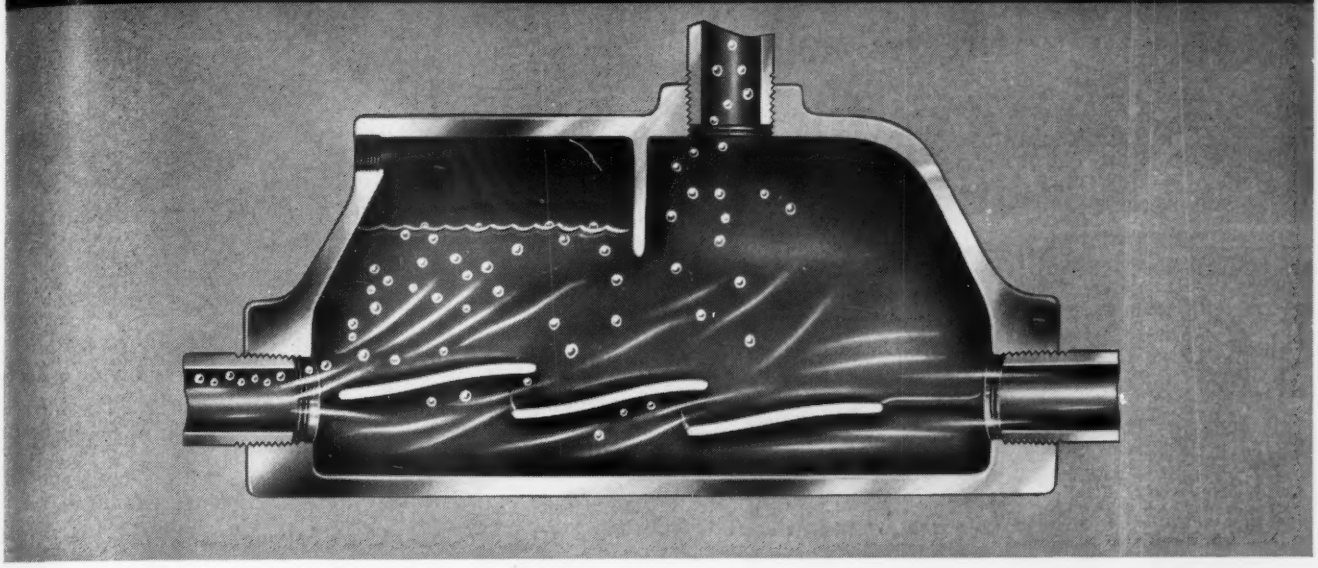


It enables equalizing air flow from all warm air registers for initial balancing adjustment, setting of blower speed, and adjusting dampers. It is suitable for use on all types of forced warm air registers.

Made by: Bacharach Industrial Instrument Co., 200 N. Braddock Ave., Pittsburgh 8, Pa.

Circle E2 on coupon, page 96

PROOF that Taco Air-Scoops belong on your hot water heating installations!



Read these unsolicited comments on the Taco Air-Scoop (names furnished upon request)

WHITE PLAINS, NEW YORK, HEATING ENGINEER:
"Confirming our report to you, the 'Air-Scoop' is a great advantage with baseboard heating installations in eliminating gurgling air noises thru the system."

TOLEDO, OHIO, PLUMBING AND HEATING WHOLESALER:
"Our organization believes Taco Air-Scoops are the answer to air troubles. One of our biggest contractors says he would never install another job without Taco Air-Scoops."

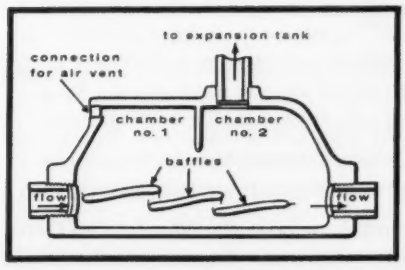
NEWTON, MASSACHUSETTS, HEATING CONTRACTOR:
"I have solved a lot of noise problems by recommending Taco Air-Scoops. Why they are not in standard use on every hot water heating job, I cannot understand."

PROOF, that there is No Substitute For Taco Quality

HOW TACO AIR-SCOOP WORKS

As air and water enter the Air-Scoop, the air bubbles are scooped up by the first baffle and rise into the upper chambers, then to the expansion tank. The second and third baffles scoop-up any air bubbles the first baffle may have missed.

For complete information, write for Technical Data Sheet TDS2.

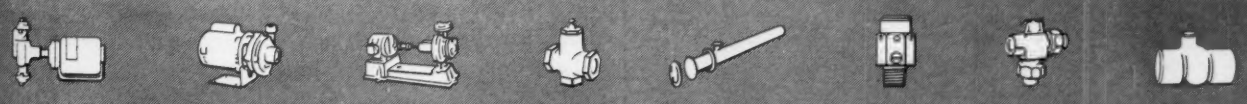


TACO HEATERS, INCORPORATED

1160 CRANSTON STREET, CRANSTON 9, RHODE ISLAND

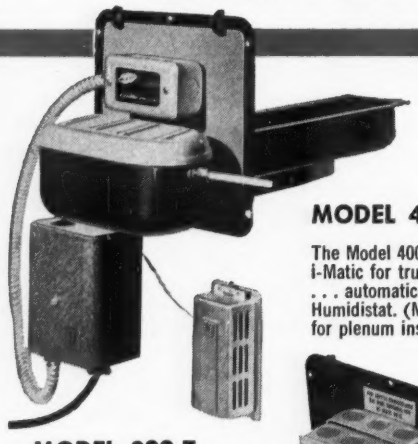
BETTER HEATING Taco BETTER WITH TACO

Corporate Office: 342 Madison Avenue, New York 17, New York
In Canada: Taco Heaters of Canada, Ltd., 4 Gilead Place, Toronto



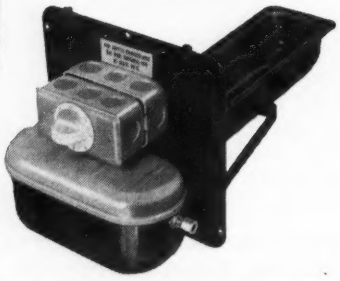
CIRCULATOR • 170 PUMP • MP PUMP • FLOCHEK • HEAT EXCHANGER • TACO VENT • TEMPERING VALVE • VENTURI

Now! bigger profits for you with the new Skuttle electric humidifiers!



MODEL 400-T

The Model 400-T Electric Humid-i-Matic for trunk line installation . . . automatically controlled by a Humidistat. (Model 400 available for plenum installation.)



MODEL 800-T

The Model 800-T Electric Humi-Dial for trunk line installation . . . automatically controlled with manual setting. (Model 800 available for plenum installation.)

Why SKUTTLE'S 10 Models* of Electric Humidifiers Will Solve Your Customers Humidity Problems And Make More Profits For You

because only SKUTTLE has a complete line of electric humidifiers for all types of warm air heating and year 'round air conditioning.

because controlled heat is provided to evaporate a given amount of water per hour to provide more positive humidification . . . automatically controlled by a Humidistat.

because SKUTTLE electric humidifiers assure maximum moisture output over conventional type humidifiers.

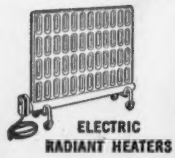
and . . . finger tip control on both the Model 400-T and Model 800-T give the "just right" humidity in the home.

**All units are also available in 230 volt models.*

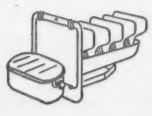
Write today for complete information on Skuttle's quality products that give you more profitable sales.

Skuttle MANUFACTURING CO.
MILFORD, MICHIGAN

IN CANADA · WAIT-SKUTTLE CO., OAKVILLE, ONT.



ELECTRIC RADIANT HEATERS



HUMIDIFIERS

PERMANENT FILTERS

Domestic and industrial Fueloils are handled by General's Filter

A FILTER of many uses, model 2A-17A, was designed by General Filters for handling Nos. 4, 5 or 6 heavy fueloils. It can be used with high capacity burners using 15 gph and over of No. 2 or 3 fueloil. When used with residuals, a 30 mesh Monel screen cartridge is recommended. For the lighter oils a 100 mesh cartridge should be used. The filtering element is cleaned rapidly by unscrewing a single center bolt and removing the bottom bowl. The filter is covered inside and out by a chip-proof, porcelain-like, plastic finish.

Made by: General Filters, Inc., Novi, Michigan.

Circle E3 on coupon, page 96

Sexauer Manufacturing makes Product to prevent Leaks, prolong tank Life

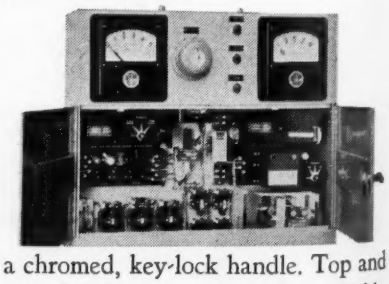
SEXAUER TANK No-Corrode has been designed to neutralize sulphur acids formed when water condensation is trapped in fueloil tanks. It also is intended to stop electrolysis and corrosion. The product is available in handy tablet form. Each six tablet pack is sufficient to treat a 1500 gal. tank.

Made by: J. A. Sexauer Manufacturing Co., Inc., 2503-05 Third Ave., New York 51, N. Y.

Circle E4 on coupon, page 96

Cleveland Fuel Equipment has Cabinets to house all primary burner Controls

A NEW SERIES of modular combustion panel control cabinets, factory-assembled, has been introduced by Cleveland Controls. The cabinets are available in three sizes. All cabinets are finished in grey, Hammerloid baked enamel. Piano-hinged doors are secured by a chromed, key-lock handle. Top and bottom gage and circuit breaker panels can be quickly removed, affording easy access to terminals. The units are engineered to group all primary burner controls, burner safety devices, gages, fuses, etc. in one, integrated package. Each panel-mounted device is identified by a plastic nameplate.



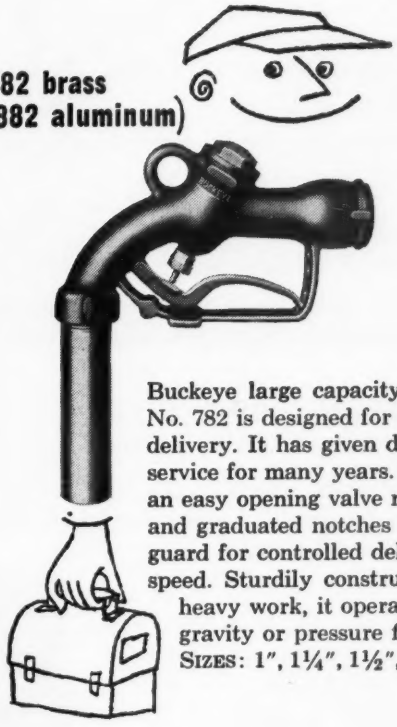
Made by: Cleveland Fuel Equipment Co., 1111 Brookpark Rd., Cleveland 9, Ohio.

Circle E5 on coupon, page 96

two workman-like Fuel Oil Delivery Nozzles

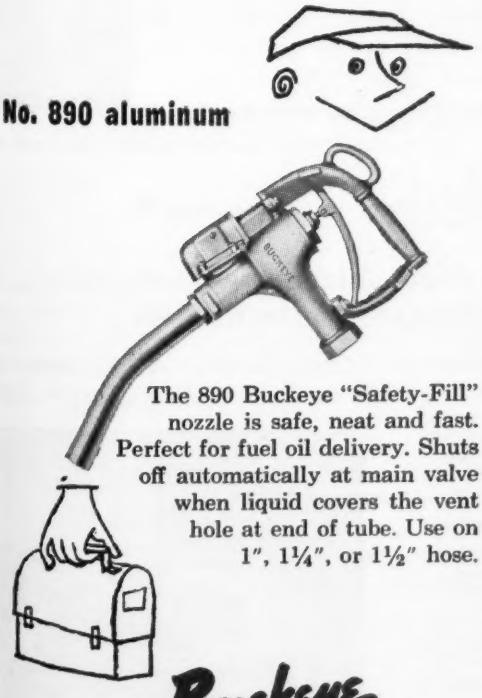
Which one do You need?

No. 782 brass
(No. 882 aluminum)



Buckeye large capacity nozzle No. 782 is designed for fuel oil delivery. It has given dependable service for many years. No. 782 has an easy opening valve mechanism, and graduated notches in rear guard for controlled delivery speed. Sturdily constructed for heavy work, it operates on gravity or pressure flow. SIZES: 1", 1¼", 1½", 2".

No. 890 aluminum



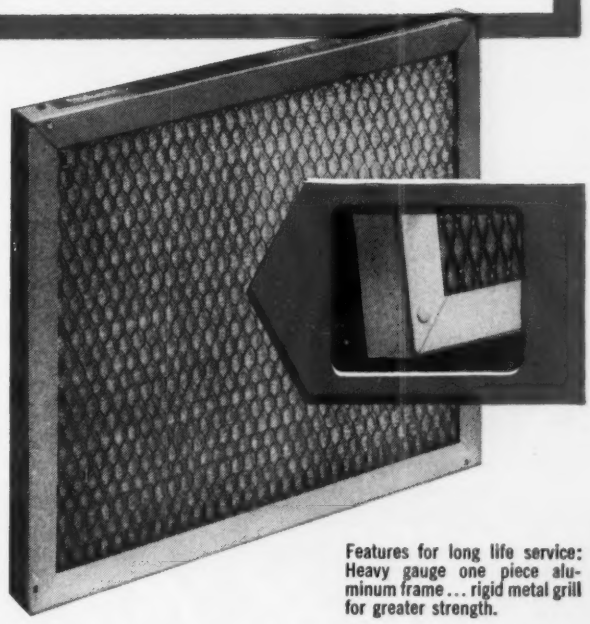
The 890 Buckeye "Safety-Fill" nozzle is safe, neat and fast. Perfect for fuel oil delivery. Shuts off automatically at main valve when liquid covers the vent hole at end of tube. Use on 1", 1¼", or 1½" hose.

Buckeye

through your oil equipment distributor, or write

BUCKEYE IRON & BRASS WORKS, Dayton, Ohio

You make more profit per filter sale with Skuttle-aire permanent filters!



Features for long life service: Heavy gauge one piece aluminum frame... rigid metal grill for greater strength.

Here are the reasons why you get more with Skuttle-Aire:

because they're permanent... built for lifetime wear.

because they're cleaned in a jiffy when dust and dirt particles gather, simply remove, clean with plain water and replace ... that's all there is to it.

because they're maintenance-free... nothing to wear or replace, never need oiling.

because they're filled with new-type filtering material ... multiple layers of specially woven plastic filaments with permanent electrostatic qualities, making it the ideal dust and dirt collecting agent.

SKUTTLE-AIRE permanent filters are available in all sizes for furnaces, central air conditioning systems and room coolers.

Write today for complete information on Skuttle's quality products that give you more profitable sales.

Skuttle MANUFACTURING CO.
MILFORD, MICHIGAN

IN CANADA: WAIT-SKUTTLE CO., OAKVILLE, ONT.

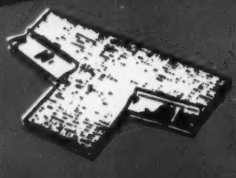
How to WIN Customers and INCREASE PROFITS!

Feature and Sell the New

Auto flo "150"

AUTOMATIC HUMIDIFIER

with the Revolutionary New and Unbreakable Glass Fiber . . .



EVAPORATOR PLATES

Absolutely unbreakable . . . pick up water faster . . . evaporate more water . . . rustproof drain clips prevent drip.

Advanced Design

New Cut-Out Template Reduces Installation Time by Half • Inspection Plate Slips on and off without Tools • 50% More Humidifying Capacity • No Moving Parts • Nothing to Stick, Clog or Require Frequent Service.

MAIL NOW!

AUTO-FLO CORPORATION
12085 Dixie Street, Detroit, 39 Michigan

Please send me full information on:

☐ Auto-Flo Fuel Oil Filter
☐ Auto-Flo Automatic Humidifier

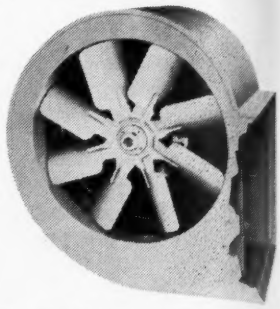
Name_____

Address_____

City_____ Zone_____ State_____

Torrington mixed flow blower Unit used on Furnaces, Airconditioners

THE RADIAX BLOWER by Torrington is a symmetrically constructed direct-drive unit with power and pressure characteristics suited for furnace and airconditioner applications. It is offered in four models covering a flow range from 500 to 1500 cfm against typical back pressures. A flat power curve permits impellers to run at any operating point with the same motor. The motor can be installed and serviced with ease. The Radiax unit is narrower than an equivalent centrifugal blower unit.

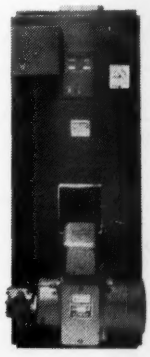


Made by: The Torrington Manufacturing Co., Torrington, Conn.

Circle E6 on coupon, page 96

Quiet Automatic Burner Corp. has cast-iron wet base boiler Units

A CAST IRON wet base boiler with cast iron oilburner, available either as a factory packaged unit or as a boiler-burner unit for hot water heating, has been announced by Quiet Automatic.



The Quik Heat oilheating unit is designed for fast heating, easy cleaning and can be taken apart for modernization of old-fashioned cellar-stair jobs.

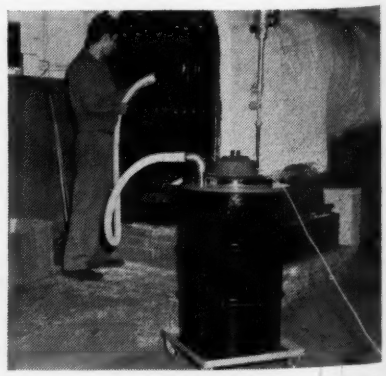
Series 13 is made in four sizes with IBR ratings from 525 sq. ft. to 875 sq. ft. Tankless water heaters are available in sizes of either 3½ or 5 gpm. Both units are Underwriter's approved.

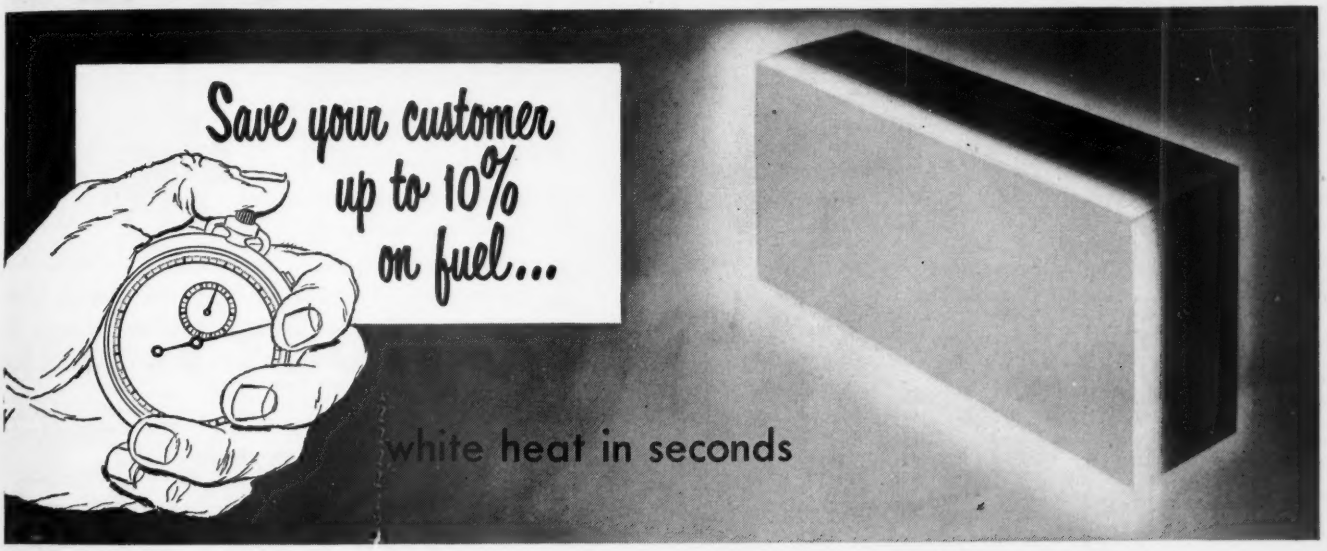
Made by: Quiet Automatic Burner Corp., Newark 4, N. J.

Circle E7 on coupon, page 96

Pullman drum Adaptor will convert standard furnace Vac to King-size

STANDARD FURNACE vacuum cleaners can be converted to a king-sized "vac" with the Pullman drum adaptor which will increase the capacity 700%. The adaptor is put on any 55 gal. drum and the filter assembly from any furnace vacuum is placed through the adaptor opening. The device can be purchased separately or with the Pullman furnace vacuum. Also avail-





Stopwatch shows how J-M insulating fire brick *helps you do both!*

Seconds to cut! Seconds to heat! Any wonder Johns-Manville insulating fire brick are so widely used everywhere for oil burner firebox construction!

Save time and labor

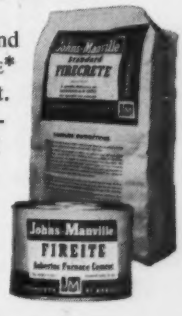
J-M insulating fire brick save you time on the job! Quickly, easily cut with a hacksaw, they make it easy to build fireboxes to the exact size and shape manufacturers recommend for top efficiency.

Assure customer satisfaction

J-M insulating fire brick save your customers as much as 10¢ on every fuel dollar! Here's why:

Heavy, ordinary fire brick soak up heat, take longer to reach operating temperature. Lightweight J-M insulating fire brick eliminate this fuel waste! Within seconds after the burner goes on—they heat to white-hot intensity. Customers also appreciate the noticeable reduction in soot, smoke and odor made possible by higher combustion chamber temperatures. And they welcome the sound-deadening qualities of J-M insulating fire brick which reduce operating noise. Recommended insulating fire brick for domestic oil burner fireboxes: JM-20, JM-23, JM-26. For industrial use: JM-28 and JM-3000.

For information, see your nearest authorized Johns-Manville Distributor. Or write Johns-Manville, Box 14, New York 16, N.Y. In Canada, 565 Lakeshore Road East, Port Credit, Ontario.



For sealing against gas and air leaks, use J-M FIREITE* Asbestos Furnace Cement. For lining hearths of rotary burners, use J-M STANDARD FIRECRETE*—a hydraulic setting refractory—ready for use in 24 hours.

*Reg. U. S. Pat. Off.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville INSULATING FIRE BRICK

FOR "SKIN-HEAT-IN-SECONDS" IN FIREBOXES

"we modernized"
with room by room
ZONE CONTROL

COMFORT CONTROL by Econo ZONE-A-TROL

Comfort CONTROL by ZONE-A-TROL

Room by Room ZONE CONTROL. a thermostat in each room or zone automatically provides the temperature desired when and where required

Zone 2
Zone 3
Zone 1

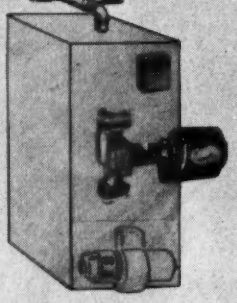
Living room 75° or as desired

Bathroom 80° or as desired

Nursery 82° or as desired

for a Lifetime of Comfortable Living

iving rooms, bedrooms, kitchens, bathrooms, tc. may be set at different temperatures and he temperature in any zone or room may be aised or lowered to suit each occupant's re-uirements for any hour . . . day or night.



Automatic ZONE CONTROL with only one Circulator...

makes ZONE CONTROL ...easy.. ...inexpensive.. to install

By controlling the flow of water from a single circulator, ZONE-A-TROL valves make it possible to install zone controlled comfort on any hot water heating system with only one circulator and one relay. By eliminating the extra cost of separate circulators, relays, and flow valves, ZONE-A-TROL makes zone-controlled heating installations easy and inexpensive to install.

ZONE-A-TROL valves may be installed in any position or angle on the supply piping for each zone and are then wired to a controlling thermostat located in the corresponding zone. Using low voltage wiring, no BX cable is required and wiring time is cut to a minimum.

SEND TODAY FOR FURTHER INFORMATION ON SELLING COMFORT CONTROL BY ZONE-A-TROL

for New Construction or Modernization

COMFORT CONTROL by Econo

CIRCULATOR FLO-VALVE BOILER PROTECTOR MANIFOLDS

ECONO PRODUCTS COMPANY, INC. East Haddam, Conn. Division of Viking Instruments, Inc.

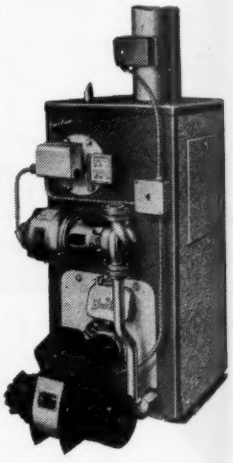
able, a four wheel dolly mounting for drum and unit.

Made by: Pullman Vacuum Cleaner Corp., 25 Buick St., Boston, Mass.

Circle E8 on coupon below

Burnham Jubilee cast-iron Boiler is wet-base, hot water heating Unit

BURNHAM'S Jubilee, wet base, cast-iron boiler, designed for hot water heating, comes in two sizes: 445 and 500 sq. ft. I-B-R net ratings. There are three models: completely packaged Jubilee-Pak, equipped with controls, wired and tested, delivered crated; Jubilee oilheating unit and Jubilee boiler unit. All have flush or extended jackets.



Wet base construction surrounds the combustion chamber with water-backed heating surface and prevents heat penetration to the floor; unit can be installed on combustible floors without special sub-base construction. Unit includes all-copper, built-in tankless heaters of Trufin construction at top of boiler. Vertical flue travel is featured.

Made by: Burnham Corp., Irvington, N. Y.

Circle E9 on coupon below

READER SERVICE COUPON

FUELOIL & OIL HEAT READER SERVICE
2 West 45th St., New York 36
REPLY CARD DECEMBER ISSUE
Mail Now—Coupon Expires February 28, 1958

Circle numbers of new product items on which you want more information:

NEW PRODUCTS

E1 E2 E3 E4 E5 E6 E7 E8 E9

ADVERTISEMENTS—Give page number and name of advertiser about whose products you want more information.

Page .....Advertiser .....

Your Name .....

Company .....Position .....

Street .....

City .....

Check Classification of principal dollar volume:
☐ Fueloil Dealer ☐ Parts and Equipment jobber ☐ Manufacturer ☐ Manufacturer Employee ☐ Manufacturers Rep. ☐ Oilheating Dealer ☐ Other

NEW THRUSH DUAL CONTROL UNIT

does FOUR jobs for

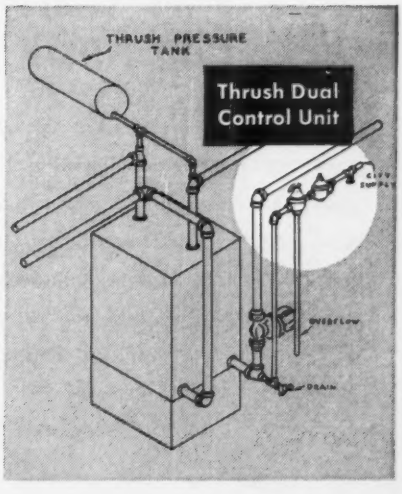
Better Hot Water Heat!

LOW COST . . . EASY TO INSTALL

NOW THE time-tested Thrush Dual Control Unit has been improved four ways! 1. Increased differential and larger waterways give it greater capacity, more dependable operation. 2. New diaphragms of special composition with greater flexibility assure faster filling of the system and greater resistance to excessive heat or pressure. 3. The Automatic Filling Valve seat is easily removable without taking the valve out of the line. 4. Built-in Check prevents loss of water from system if supply pressure fails.

For the simplest low cost forced circulating Hot Water Heating System . . . use a Thrush Dual Control Unit. It improves operation and protects the system four ways.

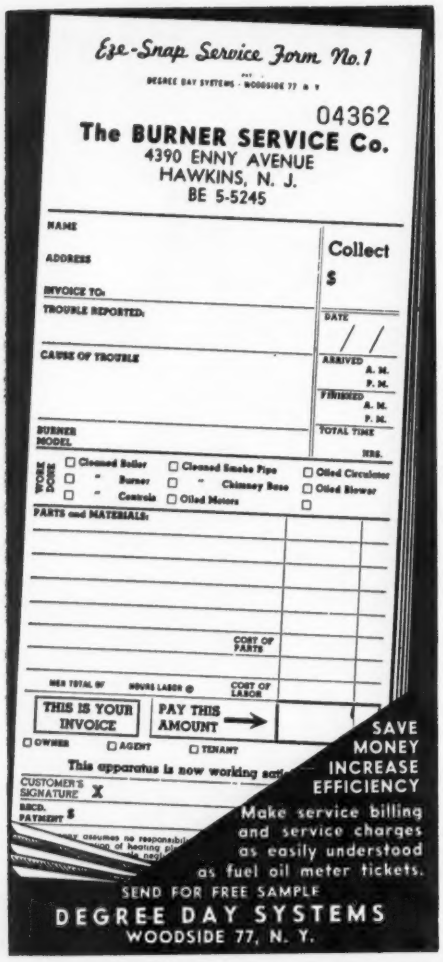
See your wholesaler for more information or write Department C-12 today!



THRUSH DUAL CONTROL SYSTEM

When used with the Thrush Water Circulator and Thrush Pressure Tank as shown in the diagram above, the Dual Control Unit provides a simple, low cost, yet highly efficient forced circulating system.

H. A. THRUSH & COMPANY
PERU, INDIANA



Walbro Corp. buys Patents, Assets of Autopulse Corp.

PATENTS and certain assets of Autopulse Corp., Ludington, Mich., have been purchased by Walbro Corp., Cass City, Mich., the purchase being effective as of October 18, 1957.

Hurry

For the present, Autopulse operations are being carried on in the Ludington plant, with the company being directed as the Electric Autopulse Division of Walbro Corp. Shipment of complete pumps began October 25.

Neil M. Hurry, director of sales at Walbro, will also direct Autopulse sales. Formerly sales manager of Marvel-Schebler, Hurry came to Walbro only a year ago.

Story of Allied Tank told in color motion Picture

TANK TRUCK production is the subject of a sound-color 16mm motion picture recently released by Neil Harvey Productions, an affiliate of Adelphia Associates, Philadelphia, Pa. Entitled "The Allied Tank Story," the film features a photographic tour through the Allied Tank Truck Equipment Company's plant located in Philadelphia.

Centering about a cartoon character, who springs to life from a catalogue cover and escorts a Mr. Morgan, fueloil dealer, through the plant, the film shows tank truck users all phases of truck construction from the molten metal to the completed tank.

Information on obtaining prints of the Allied tank story will be released shortly by the sponsor.

COUNT 'EM!

10 Plus BENEFITS WITH GENERAL FILTERS

We Compared ALL Leading Fuel Oil Filters FEATURE for FEATURE

- All Iron and Steel Construction
- Corrosion-Proofed Inside and Out
- Air Vents On Both Inlet and Outlet
- Choice of Inlet and Outlet Sizes
- Center Bolt Torque Resistance Over 300 In-Lbs.
- Non-Swelling, Leakproof Buna-N Gaskets
- Depth-Type Wool Felt Element
- Patented Lint Removal
- Moisture and Condensation Removal
- Large Sump Area

Only GENERAL HAS ALL 10 KEY FEATURES!

COMPARE! HERE ARE THE FACTS ABOUT FUEL OIL FILTERS!
Comparison of GENERAL FUEL OIL FILTERS with other Leading Makes

KEY FEATURES	GENERAL FILTER 1A-25A & 1A-250A	FILTER "A"	FILTER "B"	FILTER "C"	FILTER "D"	FILTER "E"	FILTER "F"
ALL IRON AND STEEL CONSTRUCTION No glass or soft metals. Nothing to crack, chip or wear out.	YES	NO	NO	YES	NO	NO	NO
CORROSION-PROOFED INSIDE AND OUTSIDE New corrosion-like, plastic finish on both inside and outside surfaces of filter body impervious to water, acids and oil.	YES	NO	YES	NO	NO	NO	NO
AIR VENTS ON BOTH INLET AND OUTLET Allows bleeding of lines without disconnecting filter.	YES	NO	NO	NO	YES	NO	NO
CHOICE OF INLET AND OUTLET SIZES Makes either with standard ¼" pipe openings, ⅜", ½" or ¾" at slightly extra cost.	YES	NO	NO	YES	NO	NO	NO
CENTER BOLT TORQUE RESISTANCE OVER 300 IN-LBS. Allows unrestrictedly maximum tightening without danger of threads or distortion of bowl.	YES	YES	NO	YES	NO	YES	NO
NON-SWELLING, LEAKPROOF BUNA-N GASKETS Has a trapped rim of bowl for positive seal with cover and bowl. No messy leakage.	YES	NO	NO	NO	NO	NO	NO
DEPTH-TYPE WOOL FELT ELEMENT Has a thick entire thickness of cartridge with a good point at outer surface. Greater filtering area, longer life.	YES	YES	NO	NO	YES	NO	NO
PATENTED LINT REMOVAL Lint particles in wool felt prevents from fouling lines.	YES	NO	NO	NO	NO	NO	NO
MOISTURE AND CONDENSATION REMOVAL Filter removes moisture as well as dirt — only filtering medium effective against	YES	YES	NO	NO	YES	NO	NO
LARGE SUMP AREA For trapping and holding large quantities of water, scale, etc.	YES	YES	NO	NO	YES	YES	NO
TOTAL KEY FEATURES	10	4	1	3	4	2	0

GENERAL FUEL OIL FILTERS OFFER MORE KEY FEATURES
MORE BURNER PROTECTION . . . MORE CUSTOMER SATISFACTION!

MORE OIL BURNER PROTECTION...
MORE SATISFIED CUSTOMERS!
GENERAL FILTERS, INC.
IN CANADA: Canadian General Filters, Ltd., 39 Crockford Blvd.

SELL THESE ITEMS, TOO!
CLEAN RIGHT Soot Remover destroys ⅛" soot layer in 2-5 minutes. Can reduce heating costs 25%.
GENERAL HUMIDIFIER
Water Flow Regulator obsoletes floats . . . nothing like it!

Hydrovalve's CONTROLLED TENSION
TERMINALS
FOR OIL BURNERS!

It's easy

to service the hard-to-get-at Ignitors . . . because *Hydrovalve's* Controlled Tension Terminals snap on easily . . . for strong, positive connections. Never too tight or too loose.

***Hydrovalve's* CONTROLLED-TENSION TERMINALS —**

- Are made of nickle-plated spring-tempered brass.
- Have a unique double spring grip which prevents loose connections for greater conductivity.
- Save time! Wire ferrules are designed for easier crimping and positive grip to resist pull exerted during installation or removal.

***Hydrovalve's* Terminals are packed 50 to a jar.**

Hydrovalve Co. 1319 Utica Ave. Brooklyn 3, N. Y. BUckminster 4-1330

Remember —
YOUR OIL BURNER SUPPLY JOBBER CARRIES A COMPLETE LINE OF *Hydrovalve's* ENGINEERED FOR REPLACEMENT PARTS AND TOOLS! *See him now!*

NOW there are 14
Vaporite
MODELS

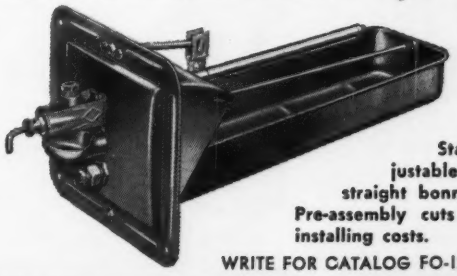
. . . a size and type Humidifier for every furnace installation.

SERIES 555
Fits any straight side warm air furnace.

Corrosion resistant, stainless steel vapor pan 4" x 15". Completely assembled for quick and easy installation.

New copper overflow on Model 555C.

New sensitive thermostats assure balanced humidity.

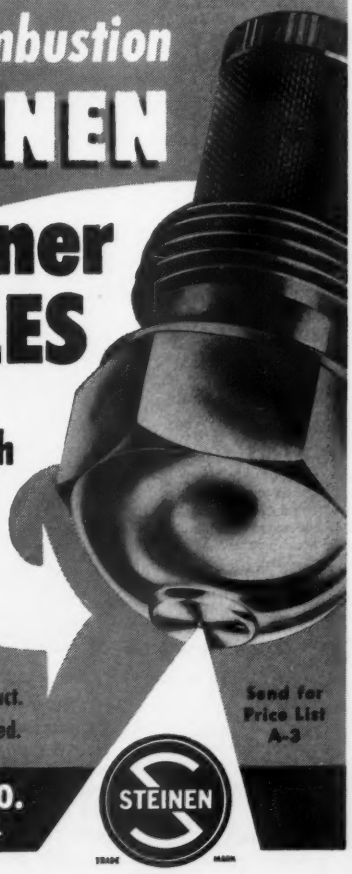


SERIES 577
Stainless steel. Adjustable to sloping or straight bonnet furnaces. Pre-assembly cuts labor time and installing costs.

WRITE FOR CATALOG FO-12

AUTOMATIC HUMIDIFIER CO, Cedar Falls, Iowa.

for Quiet – Uniform – Efficient Combustion
use STEINEN
Oil Burner NOZZLES
with Mirror-Finish Tip



Your assurance of a quality product.
All nozzles individually flow tested.

Send for Price List A-3

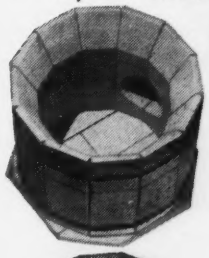
WM. STEINEN MFG. CO.
44 Bruen St., Newark 5, N. J.

STEINEN
TRADE MARK

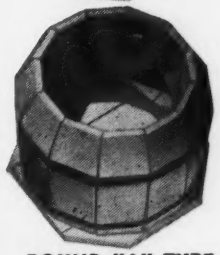
2474

I give Expert Service and I use . . .

The Instant-Glo
CUSTOM-BUILT INSULATING BRICK
COMBUSTION CHAMBER



STANDARD ROUND TYPE
for Boilers and Cast Iron Furnaces
Sizes up to 2.0 GPH



ROUND "A" TYPE
Specially designed for Steel Furnaces
(Can be used on any job where round chamber is desirable.)
Sizes up to 1.75 GPH

"NARROWBOY"
for Narrow Boilers and Furnaces
Sizes up to 5.0 GPH

"My Customers appreciate the DIFFERENCE!"

For details, write to:
BOSTON MACHINE WORKS COMPANY
Oil Heating Supplies Div.
7-17 WILLOW STREET
LYNN, MASSACHUSETTS

Permaglas Division effects sales organization Changes

IN LINE with the recent formation of an integrated marketing operation for the Permaglas Division, A. O. Smith Corp., Kankakee, Ill., changes, promotions, and transfers within the division's sales organization have been effected.

According to the new plan Permaglas sales representatives will sell the "full line" of domestic water heaters, commercial water heaters and airconditioning and heating units, instead of specializing in one of the three areas.

Personnel changes as a part of the new plan include the appointment of three new sales supervisors: Dick Clark in the Albany, N. Y., Connecticut and western Massachusetts area; Lee Cornell in the eastern Pennsylvania, Baltimore, and Washington areas, and Lee Zoeckler in the Chicago metropolitan area.

Hal Merkel has been named sales manager of heating and airconditioning products for Permaglas; while Jack Pohle, formerly covering Colorado, will extend his sales territory to include Montana and Utah.

Sales representatives transferred are: Cliff Schultz, from metropolitan New York to eastern Michigan; Gerv Fohey, from Chicago to Detroit; Les Huber, from Chicago to Indianapolis; Dick Houdlett, from metropolitan New York to Albuquerque; Charley Giddings, from Atlanta, Ga., to Charlotte, N. C.; Tom Munford, a new representative, to Chicago, and Bill Hutchinson, from Kankakee to Chicago.

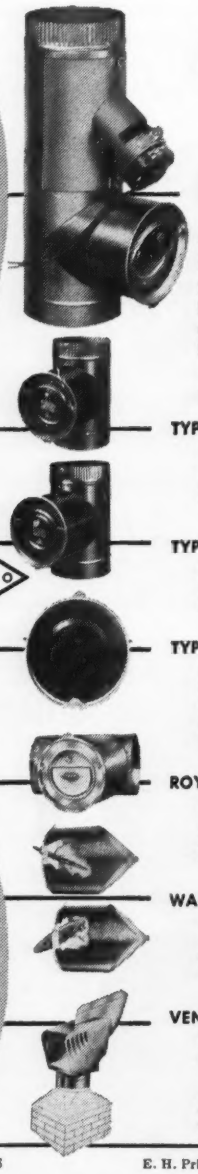
1st IN DRAFT CONTROLS for 30 YEARS!

WALKER FUEL-SAVER AUTOMATIC DRAFT REGULATOR

Over 25,000,000 Now in Use for Home and Industry

WALKER MFG. & SALES CORP.

1750 Penn St.
St. Joseph, Missouri



WALKER

Shur-Flo
DRAFT INDUCER

Saves YOU MONEY! Saves TIME!
COMBINES 2 DRAFT JOBS IN 1!

Eliminates need for two installations by combining fan operated draft inducer with draft regulator control. Simple to install at any angle.

FAMOUS DRAFT CONTROLS BY WALKER
PRECISION ENGINEERED FOR QUALITY

TYPE Z
Dial and Pointer adjustment—simplest design, easiest to adjust, maintains positive and accurate control under widest variation of stack draft.

TYPE 34B
Universally accepted for space heaters, water heaters, trailer stoves, and all budget-priced heating equipment.

TYPE BB
Extra rugged, heavy construction designed for commercial and industrial use. Actual installation proved it cut fuel costs in only three months, enough to more than pay total original investment cost.

ROYAL PURPLE MODEL
Walker's finest quality automatic draft regulator with all moving parts completely shielded from corrosion. Guaranteed performance.

WALKER BBG DOUBLE SWING CONTROL
Walker's BBG Double Swing Control regulates updraft, dissipates downdraft in gas-fired and combination oil-gas fired equipment.

VENTURI TOP FOR CHIMNEY CAPS
Unique Venturi design assures positive elimination of downdraft at chimney top . . for oil, gas or coal fired chimney vents. Patented pivots, balanced construction, guarantee maintenance-free long life.

CANADIAN DISTRIBUTORS

G. Mitchell & Co., 4215 Gascon St., Montreal, Quebec, Canada

E. H. Price, Ltd., McArthur St., Winnipeg, Manitoba, Canada

E. H. Price, Ltd., 83 Robson St., Vancouver, B.C , Canada

Please rush me information about the Walker items checked below.

- ☐ Automatic Draft regulators for small installations.
- ☐ Industrial Draft regulators for schools, buildings, plants.
- ☐ Double Swing Draft Control for Gas.
- ☐ Walker SHUR-FLO Draft Inducer.
- ☐ Royal Purple-Deluxe Controls for Deluxe Equipment.
- ☐ Venturi-Top Chimney Cap.

NAME_____

ADDRESS_____

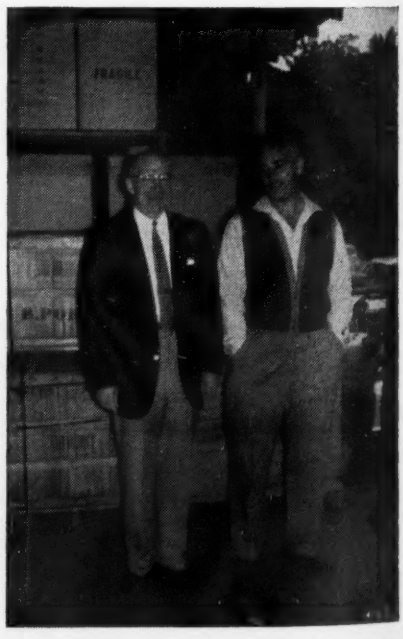
CITY_____ STATE_____

Filter-Separator described in Bowser, Inc., Bulletin

A FOUR PAGE folder describing the Figure 842 Filter-Separator has been published by Bowser, Inc., Fort Wayne Division, Fort Wayne, Ind.

The folder contains detailed information on the filter-separator's removal of dirt and entrained water from light fuels, solvents, distillates and light petroleum liquids, including coverage of the product's application in "dry cleaning" domestic fueloils.

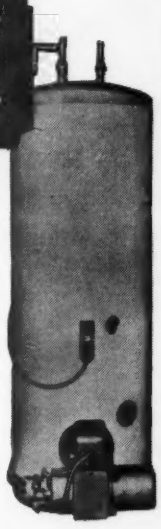
Copies may be obtained from Bowser, Inc., 1300 E. Creighton Ave., Fort Wayne, Ind.



Sir Harvey, chairman of the board, Sid Harvey, Inc., Valley Stream, N. Y., left, stands with Allen Funt, radio and television star. Funt, as part of a sales promotion program for Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., has been conducting a series of candid interviews with oilburner dealers at Sid Harvey's in Valley Stream.

NOW— 4 TYPES of Unusual

HI-RECOVERY
QUIET AUTOMATIC
OIL FIRED WATER HEATER



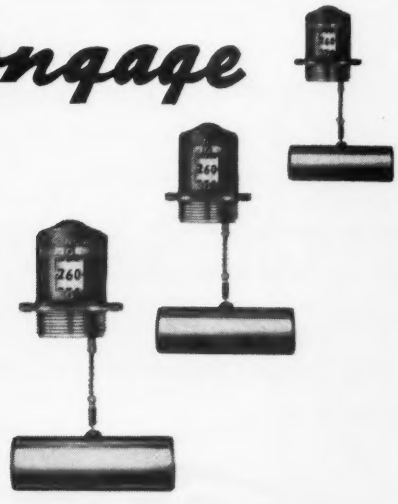
HI-RECOVERY®
HOT WATER HEATERS

- **GLASS LINED**
  30 gallon with 120 gallon hour recovery
- **COPPER LINED**
  30 gallon with 120 gallon hour recovery
  45 gallon with 180 gallon hour recovery
- **A.S.M.E. GALVANIZED**
  30 gallon—35 gallon—and 44 gallon for Motels, Apts., State and Government Jobs
- **TWIN COIL JOBS**
  for Launderettes and Big Buildings

Coast to Coast Distribution

QUIET AUTOMATIC BURNER CORP.
MANUFACTURING ENGINEERS
33-35 Bloomfield Avenue • Newark 4, N. J.
CHICAGO OFFICE: 1005 W. Belmont Ave. EAstgate 2-6684

Galongage



Your profit-making, quality gauge for all replacement jobs!

For easy *extra* profit on replacements include Galongage — the oil tank gauge which reads in gallons. Emphasize its lasting accuracy, quality construction, easy-to-read numbers. This better gauge costs only a little more — is the logical modern replacement for any previously installed gauge.

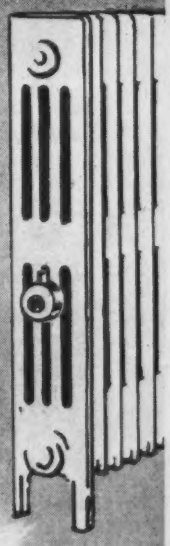
Galongage is easy to install, less expensive to ship, fits easily into a serviceman's kit.

APPLIED MECHANICS COMPANY
381 Congress Street, Boston 10, Mass.

RADIATORS HEAT FAST WITH

GORTON VALVES
ESTABLISHED 1887
'THE SURE CURE FOR COLD RADIATORS'

for Radiators

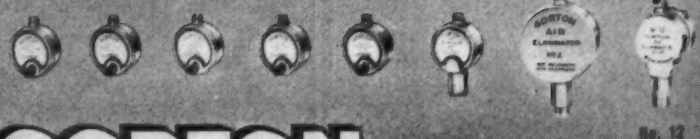


for Mains

FAST VENTING VALVES

FOR EVERY STEAM HEATING SYSTEM--

Fast venting Gorton Valves make radiators heat quickly and evenly with ounces of vapor, instead of pounds of pressure. Available in 5 sizes for radiators and 2 sizes for mains, Gorton Valves permit the balancing of each radiator so they perform with maximum efficiency and insure perfect heating comfort and economy. For steam heat that can't be beat - insist on Gorton Valves!



GORTON VALVES Cranford, New Jersey

No. 12 H.P. Value to 150 Sq. Ft.

Superior Filtering for all Oil Burning Equipment!

Klemm MICRO FUEL OIL FILTERS

FF-430 U/L

There's a Klemm Fuel Filter for every standard burner using No. 1 and 2 fuel oil. Your choice . . . metal or glass bowl. "Millions Since 1932."

1. Practically no flow resistance—true depth filtration.
2. Simplified construction for simplified service . . . no tools required.
3. Eliminates nozzle and line clogging for increased burner efficiency.
4. All parts . . . Hi-Chrome and Brushed Zinc.

FF-430G

PK-150 U/L

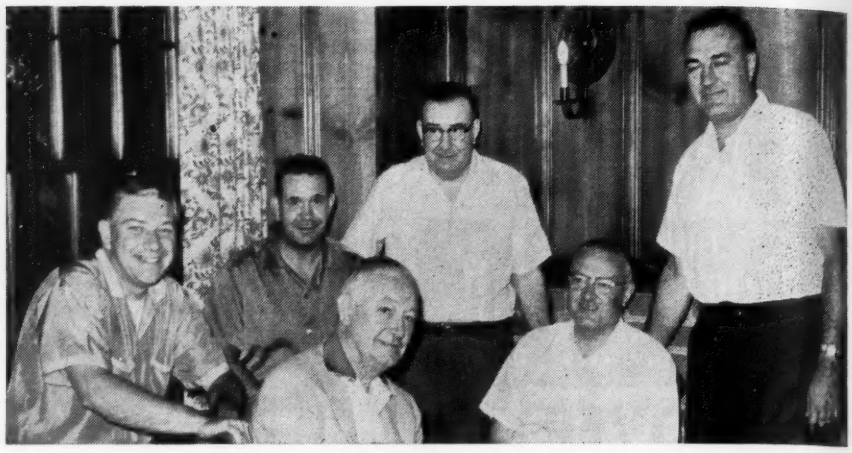
JR-60

chemistone

Controlled porosity element assures sparkling, crystal-clean fuel oil every minute. Traps water . . . removes dust, rust and scale.

Klemm PRODUCTS

Division of
KLEMM AUTOMOTIVE PRODUCTS COMPANY
1722 North Damen Avenue • Chicago 47, Illinois
EXPORT: Guiterman Co., Inc., New York 4
CANADA: Elgee, Ltd., Toronto



Three father and son teams are sales representatives for Skuttle Manufacturing Co., Milford, Mich. George Greulich and son Al, the latter seated first left, the former seated third left, with offices in Detroit, Mich., represent Skuttle in the Midwest. H. L. McNally and his son Jack, center back, represent the firm in Des Moines, Iowa, and William J. Debler with his son Bill, seated and standing at right, operate from Needham, Mass., covering New England.

Industrial Acoustics adds Airconditioning Department

A NEW DIVISION to handle products applicable to the airconditioning field has been formed by Industrial Acoustics Co., Inc., New York City. The Air-Conditioning Department to be headed by Charles N. Rink, will cover development and sales of all noise control equipment for air handling systems.

Rink came to Industrial Acoustics after spending ten years in the airconditioning field as a manufacturer's agent. He is responsible for the design of shockproof and vibration proof coils used in ventilation heaters on Navy ships.

Mt. Hawley's
Milton HeatMore

THANK YOU . . .

. . . for a wonderful year and for your acceptance of the complete line of Mt. Hawley equipment . . . especially of the newly introduced

HYDROLO "29"

as advertised in the October and November issues of this publication.

MHM

Season's Greetings

Mt Hawley MFG. CO. MT. HAWLEY AIRPORT PEORIA 4, ILLINOIS

More for your Money in

MORYSVILLE

Morysville U-2 for ½, ¾ or 1 ton chassis

BEST BODY - BEST BUY

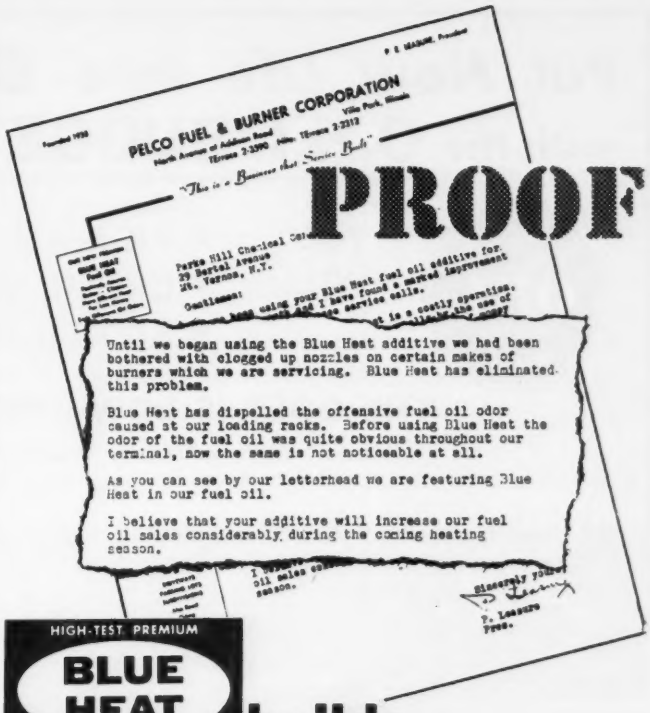
- 14 and 16 ga. Body Steel (14 ga. throughout for models rated 1 ton up—19 ga. doors)
- 12 ga. Diamond Floor Plate
- Heavy U-Channel Understructure
- Electric Welded throughout
- Telescoping Roof and Hinged Gate
- Full-length Hinges with Brass Pins
- Solidly Framed Doors and Panels
- Recessed, Spring-loaded Latches with Individual Locks or Master Locking Device
- Fendix Undercoating (No Extra Charge)

IMMEDIATE DELIVERY • Distributors in Principal Cities

"BODIES YOU CAN DEPEND ON" TO LAST INDEFINITELY

MORYSVILLE Body Works INC.

813 SOUTH READING AVE BOYERTOWN, PENNA


PELCO FUEL & BURNER CORPORATION
Villa Park, Illinois
"This is a Business that Service Built"
Parke Hill Chemical Corp.
29 Bertel Avenue
Mt. Vernon, N.Y.
Gentlemen:
Until we began using the Blue Heat additive we had been bothered with clogged up nozzles on certain makes of burners which we are servicing. Blue Heat has eliminated this problem.
Blue Heat has dispelled the offensive fuel oil odor caused at our loading racks. Before using Blue Heat the odor of the fuel oil was quite obvious throughout our terminal, now the same is not noticeable at all.
As you can see by our letterhead we are featuring Blue Heat in our fuel oil.
I believe that your additive will increase our fuel oil sales considerably during the coming heating season.
Sincerely Yours
P. Lessere
Pres.

PROOF

HIGH-TEST PREMIUM BLUE HEAT FUEL OIL ADDITIVE

builds Fuel Oil Business

Write today for a franchise in your area

PARKE-HILL CHEMICAL CORP.

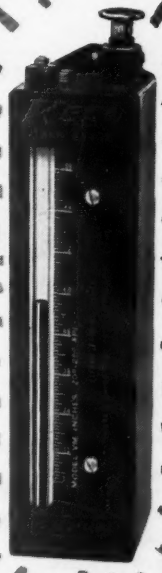
29B Bertel Ave. • Mount Vernon, N. Y. • MOunt Vernon 8-7220

new!

KECO

Remote-Reading TANK GAUGE

For Oil and Gasoline



- Versatile!
- Attractively Priced!
- Economical to Handle!
- Minimum Dealer Inventory!

FREE BULLETIN shows why the Keco gauge is a natural for users, distributors and dealers alike. Write Today!

KING ENGINEERING CORP.

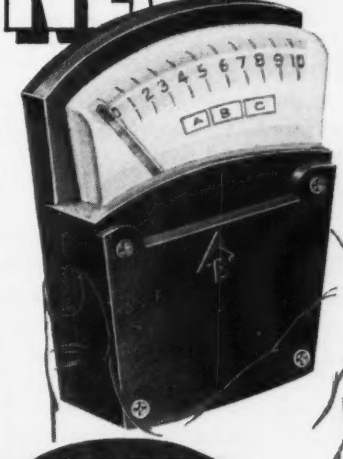
Box 410 • Ann Arbor, Mich.

MANUFACTURERS OF GAUGING EQUIPMENT FOR OVER 30 YEARS

NEW! another BACHARACH FIRST!

FLORET

FORCED AIR HEATING BALANCER



The modern way of adjusting residential installations for maximum comfort. Use it to:

- √ Equalize air flow from all registers for initial balancing adjustment.
- √ Set blower speed for comfort air circulation.
- √ Adjust duct dampers for temperature balance in all rooms.
- √ Check that all register velocities are within comfort range.

$995 DEALER'S NET

See it in Booth 222 at Air Conditioning and Refrigeration Industry Show in Chicago, November 18-21, or return coupon for details.

BACHARACH INDUSTRIAL INSTRUMENT CO.

200 N. BRADDOCK AVE. • PITTSBURGH 8, PA.

RUSH details on FLORET Register Air Balancer to

NAME_____

COMPANY_____

STREET ADDRESS_____

CITY & STATE_____

F-24

Put New Life Into BUDGET ACCOUNTS *with the* O.H.I. BUDGET INSURANCE PLAN

OIL HEAT INSTITUTE OF AMERICA INC. — OHI

YOU WILL:

- INCREASE YOUR BUDGET ACCOUNTS
- CREATE GOODWILL
- ADD TO YOUR PRESTIGE

THE COST IS LOW—THE ADMINISTRATION IS EASY

Underwritten by Washington National Insurance Company
For Complete Details Write

Oil Heat Institute of America, Inc.
500 Fifth Avenue
New York 36, N. Y.

Washington National Insurance Co.
Evanston, Illinois

American Air Filter conducts sales School for Engineers

A TWO-WEEK sales school was conducted by American Air Filter Co., Louisville, Ky., for sales engineers who had recently joined the firm's field organization. It was held November 11 through 22, under the direction of John W. Frazier, sales promotion manager.

Carrier Corp. enters steel boiler Field

THE UNITARY EQUIPMENT Division, Carrier Corp., Syracuse, N. Y. recently begun production of gas and oil-fired steel boilers. Designed to supply steam or hot water for heating commercial buildings of moderate size, the new boilers will expand the range of Carrier products available for year-round air conditioning installations.

Hy-Test 303 Corp., Rutherford, N. J., president and founder, John Valk, Jr., right, inspects the special Yale key used to seal the first railroad tank car of Hy-Test 303 additive. This shipment contained enough of the additive to raise 40 million gallons of fueloil to premium quality, thus eliminating soot, rust, and corrosion from heating systems. Dave Cleveland, Yale & Towne Mfg. Co., center, presents the key, while L. D. Miller, president, Stewart-Hall Chemical Corp., Mount Vernon, N. Y., manufacturers of the fueloil additive, looks on.

PerfXray brochure issued by General Controls Co.

GENERAL CONTROLS CO. recently released a brochure on PerfXray, giving the advantages of the burner-mounted primary control plus wiring diagrams.

Copies of the brochure may be obtained by writing to General Controls Co., 801 Allen Ave., Glendale, Calif.

When THIS Bird tells you . . .

. . . about IRCO Mirro-Glo combustion chambers, book tile, tile and 4-position baffles, you can depend upon superior quality in a fast-heating FIRED refractory-reasonably priced anywhere in the U. S.

Distribution in principal cities

INSULATING REFRACTORIES CO.

SAN RAFAEL **CALIF.**

It's a . . . KAM Exclusive!

Removable Coil — **ALL Copper**

TANKLESS HEATER

Defies Comparison--At ANY Price!

- **Can be installed either vertical or horizontal**
- **REMOVABLE feature permits re-use of shell or coils**
- **Ideal for hard-water areas**

KAM **Our 51st Year**

KAM WATER HEATER MFG. CO. INC.
239-249 Alabama Ave., Brooklyn 7, N. Y.

Integrated sales Conference held by General Electric

THE AIR CONDITIONING Division, General Electric Co., Bloomfield, N. J., recently conducted an integrated sales conference for its distributors at the Empress Hotel, Miami, Fla. The conference was organized for the purpose of coordinating marketing policies among the firm's three separate airconditioning departments thus facilitating business between manufacturer, distributor, and dealer.

A preview of the Division's 1958 line of products highlighted the occasion. Air-cooled units, water-cooled, self-contained models, and a new 3-ton Weatherton heat pump, were among the products displayed.

Williams water Heater packed for Shipment to South Pole

AN AUSTRALIAN licensee of the Williams division, Eureka Williams Corp., Bloomington, Ill., Automatic Heating Appliances of South Melbourne, has packed a Williams Oil-O-Matic water heater for long distance shipment to the South Pole.

Ray Goodwin Co. now sells Drayer-Hanson products

RAY GOODWIN CO., Omaha, Neb. now represents Drayer-Hanson, Division of National-U. S. Radiator Corp., Los Angeles, Calif., in the entire state of Nebraska and the lower half of South Dakota. Besides selling Drayer-Hanson cooling products, other lines carried by Ray Goodwin include diffusers, registers and boilers of such national manufacturers as Anemostat, Waterloo and Preferred Utilities.

Roper Pump Div. operating as separate corporation

ROPER HYDRAULICS, INC., started operations November 1, taking over the pump business of Geo. D. Roper Corp., Pump Division, Rockford, Ill. The change is in keeping with a program to separate pump operations from the parent firm's household appliance activities.

The history of Roper Hydraulics, Inc. which will utilize the same plant and facilities as the Pump Division goes back through predecessor companies for one hundred years of manufacturing.

Division personnel will remain intact in the newly formed corporation, the officers being John H. Makemson, president; Fred Dickerson, vice president; and Charles Oehler, secretary-treasurer. Other executives of the corporation include J. M. Hoskinson, sales manager; John Albright, chief engineer; and Richard Corrigan, advertising manager.

General Controls purchases Valve manufacturing Concerns

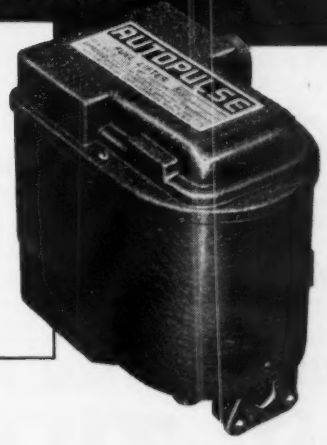
HAMMEL DAHL CO., Providence, R. I., manufacturer of pneumatically-controlled industrial valves, has been purchased by General Controls Co., Glendale, Calif. The acquisition is effective in January, when the company will be operated as a division.

This is the second aquisition made recently by General Controls, the first being the Tork Master Division, Harvill Corp., Los Angeles, Calif., also makers of valves.

AUTOPULSE

ELECTRIC FUEL OIL LIFTERS

NOW A MEMBER OF THE WALBRO FAMILY OF PRODUCTS



● On October 19, 1957, we acquired the patents and certain of the assets of Autopulse Corporation.

On October 25, shipments were resumed from the Ludington plant. For the foreseeable future, all Autopulse operations will continue at the same address—218 E. Dowland Street, Ludington, Michigan.

New Autopulse products and service parts will continue to be available through the dealer channels operating at the time of the dissolving of the Autopulse Corporation. Contracting will be completed as rapidly as possible.

The Walbro policy of constant product improvement will now apply to the Autopulse line. In the field of internal combustion engines, this policy has won gratifying acceptance for Walbro carburetors and related parts. Both trade customers and ultimate users are assured that Autopulse and Walbro engineering will keep the electric fuel oil lifters ahead of the field in quality, value, and improvement.

W. E. Walbro
PRESIDENT

WALBRO CORPORATION
6242 Garfield Street • Cass City, Michigan

MURRAY Says:

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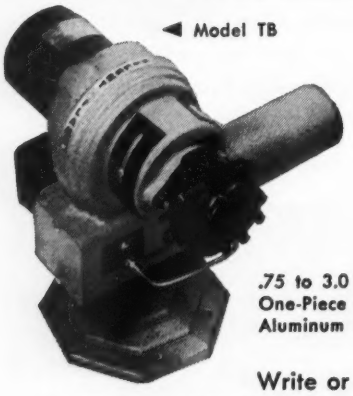

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USE it——SELL it!

"E-Z" *fuel oil*

SOOT DESTROYER

For more than 20 years, "E-Z" has been manufactured, nationally advertised and sold throughout America. It is a thoroughly tested and proven product, and is preferred and recommended by oil burner servicemen from coast to coast because;

1. **"E-Z" quickly and thoroughly eliminates fuel oil soot in only *one application.***
2. **"E-Z" eliminates the need for cleaning equipment.**
3. **"E-Z" saves time and manpower.**
4. **"E-Z" is *safe* and easy to use.**
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1630 Carroll Ave., St. Paul 4, Minn.

Please send us FREE SAMPLE of "E-Z" Fuel Oil Soot Destroyer for testing. Send literature and complete price set-up.

Name .....
Firm .....
Address .....
City ..... State .....

Industry Groups

(*Begins on page* 81)

Equipment Co., Nashville; Carl W. Wolff, Petroleum Equipment Service & Maintenance Co., Allentown, Pa.; W. E. Crowder, United Pump Supply, Inc., Dallas, Tex., and D. W. Monroe, Monroe Equipment Co., Miami, Fla. Members of a new manufacturers liaison committee were elected with C. W. Haines becoming chairman.

Dallas was selected as the site for the 1958 meeting of the association.

J. C. Klinger now associated with New Jersey fueloil Group

NEW ASSISTANT to the executive director of the Fuel Oil Distributors Association of New Jersey is John C. Klinger. Formerly an editor with Oildom Publishing Co., Klinger, in his new position will work primarily with the Oil Heat Council and with the association's publicity and membership activities.

OHI Service School to open for second Session in Jan.

THE 13TH ANNUAL Oil Heat Service School presented by the OHI of New England will open for its second session of the year on Monday, January 6th at the Y. M. C. A. in Cambridge, Mass. Meeting Monday through Friday each day in a different locale for a period of ten weeks, the school will be held Tuesdays beginning January 7 at the Lower Dennison Memorial Hall, Framingham, Mass.; Wednesdays starting January 8 at the Calumet Club, Fall River; Thursdays from January 9 at the Narragansett Electric Light Auditorium, Providence, R. I.; and Fridays after January 10 at the Y. M. C. A., Quincy, Mass.

Sponsored through the cooperation of local OHI Committees, the school offers lectures on a wide range of topics to be given by authorities in the heating industry. The first series of lectures to be presented by I. M. Nelson, Boston Machine Works, will treat such subjects as combustion and nozzles.

Panel on Retail Credit held by Better Home Heat Council

A GENERAL membership meeting of the Better Home Heat Council, Inc., held recently at the Hotel Bond, Hartford, Conn., featured a panel entitled "How much retail credit can the oilman carry?"

Tim Sullivan, American Coal Co., served as moderator for the discussion. The speakers, authorities in the credit field and men familiar with the oil-heating industry, were: S. Costales, vice president, Connecticut Bank & Trust Co.; W. Whittlesey, certified public accountant; and P. Moreau, Hartford Credit Rating Bureau.

N. Y. Oil Heating Assn. pays Tribute to Joseph L. Farrell

PAST PRESIDENT of the New York Oil Heating Association, Joseph L. Farrell, was honored at a testimonial dinner given recently by the group at the Hotel Delmonico, New York City.

Anthony J. Panzera, president of the association, presented Farrell with a replica of the meeting bell and gavel used in conducting the organization's meetings, and a sterling silver cigarette box, both inscribed with an expression of the members' appreciation.

Farrell served as president of the association during 1956 and has been active as chairman of various of its committees.

Joseph L. Farrell, past president of the New York Oil Heating Assn., receives the commemoration gift from Anthony J. Panzera, right, president of the association.

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A Certificate OF
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A COMPLETE LINE OF CONTROLS FOR HEATING, AIR CONDITIONING AND REFRIGERATION.
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KLIP-ON
Universal Ignition
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You can use the KLIP-ON on over 100 makes of burners. Four spring steel clips fasten KLIP-ON universal plate to transformer without removing transformer plate. A MUST in every service man's truck! Cuts down your inventory.

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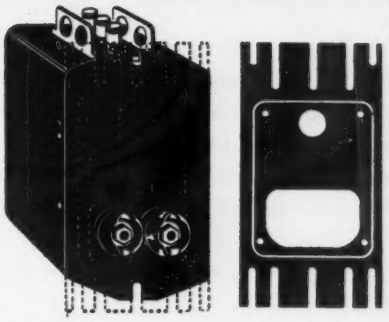

THERMOLOK MFG. CO. INC.
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Mass. Group hears Experts discuss credit Problems

HOW MUCH CREDIT can the oilheat dealer carry was the subject under discussion at a panel held in November in Springfield by the Oil Heat Council of Western Massachusetts. Members present for the discussion heard three experts in the credit field a banker, a credit manager and an accountant, all men familiar with the business speak on credit and related problems as they affect the oilheat dealer.

N. C. Independent Marketers hold organizational meeting

THE NORTH CAROLINA Independent Petroleum Marketers Association held its first meeting this fall in Greensboro, with Roby E. Taylor being elected first president. Other officers of the new association are: J. R. Helderman, vice-president and E. R. McCoy, secretary-treasurer.

Directors, including the above officers, are: Frank Kenan, J. F. Gant, J. E. Barringer, and Paul Kendall.

Fueloil & Oil Heat now available on Microfilm

SUBSCRIBERS may now purchase FUELOIL & OIL HEAT on microfilm. A film copy of each volume taking only a single roll will be made available at the end of each volume year to all bona fide subscribers. The microfilm is advantageous particularly to those with storage space problems, since it is only 4 in. square and 1¾ in. thick.

Orders should be placed with University Microfilms, 313 N. First St., Ann Arbor, Mich.

Now Is The Time For

This 44 page booklet contains a series of articles by J. R. Lewis on the airconditioning market—the opportunities in cooling sales as they apply to the Oilheating dealer.

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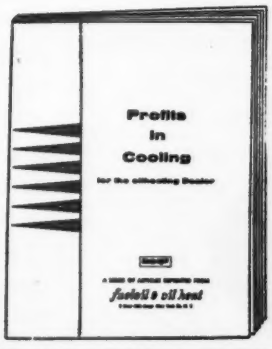

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Factories in Brooklyn, N. Y. and Taunton, Mass.

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DRAFT CONTROL

Fully adjustable for precise accurate setting and instant response to draft variations: ADJUST-O-DRAFT is quality constructed. A cast aluminum ring with built in stops, concealed solid brass bearings, and other features, insure lasting dependability and maximum efficiency when you INSTALL ADJUST-O-DRAFT.

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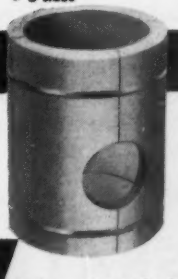

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MEADOW and JACKSON STS.
PHILADELPHIA 48, PENNSYLVANIA

Call or write today!

Quality Builders

(*Begins on page 41*)

6. There is also a certain intangible cost which is important to a builder. His control over his own job is lessened when he has to deal with a large utility that is a monopoly in the community. Several builders, although they acknowledge a preference for working with individual dealers of their own choice, expressed themselves in cautious tones concerning the local utilities because of a feeling of dependence.

What can happen when dealers take a passive attitude toward inroads made by gas heat in new construction? The answer is visible in some markets where even though fueloil is more economical than gas, practically all new homes have gone to gas heat.

Almost all dealers agree that the answer to this problem lies in a uniform front. Get together to present the case for oilheating. A careful appraisal of the situation in individual communities, plus an intelligent public relations program tailored to the specific analysis will keep oil heat growing. This recipe is not only prescribed in areas where gas has made inroads. All thinking dealers have expressed a concern in their own future and their willingness to make an investment to assure prosperous years.

Several interesting points concern related facts. Where there is an operating cost advantage in favor of oil, several dealers have been vigorously pushing the sales of oilfired domestic hot water heaters. They have found this to fill a natural need in homes that have oilfired warm air heating systems. This equipment uses the same oil that is used for heating. The comparative efficiency of the new types of oilfired water heaters practically sells itself to the customer.

Oilfired water heaters are found to be a two edged affair. A profit is derived from the installation. More fueloil is sold to the customer.

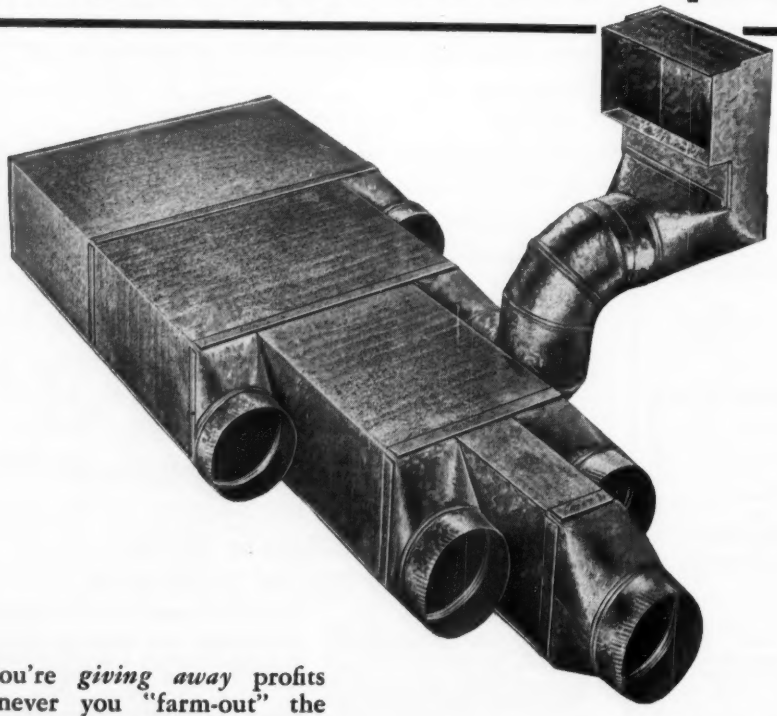
Airconditioning similarly has taken hold with the fueloil dealers. As one dealer said, "We can't be in the heating business and not be in cooling." In the modern home these systems go side by side. Whereas, in many new homes, airconditioning is provided at an additional cost, several dealers have stated that they are figuring jobs where airconditioning is a regular feature of the home. These homes are in selling brackets of from $15,000 upward.

Most dealers working in new homes, as a rule, try to get airconditioning in the model house. It serves as an advertisement for the dealer and a source of comfort for the salesmen and builder. Such jobs have paid for themselves when the model home was sold.

Other dealers have found an untapped source of airconditioning business among their regular fueloil customers. Some dealers note that their airconditioning business takes the bottom out of their spring slump. It provides uniform employment for crews trained for airconditioning work.

Progressive dealers do not stand still. They are always on the alert for new ideas and a new approach. They are also willing to work with others, share ideas and contribute their share. A basic premise underlies all their thinking; everyone benefits from a forward looking prosperous industry.

Keep ALL the Profits
on your next warm-air job!



• You're *giving away* profits whenever you "farm-out" the ductwork on your furnace installations. You can easily handle the complete job yourself with "Snap-Rite" prefabricated ducts and fittings. You don't need a sheet-metal shop or special equipment—the patented quick-locking feature of "Snap-Rite" ducts and fittings makes them easy to assemble.

Shown above is our most popular and simplified No. 160 line which consists of a square main trunk with round branch lines. This is accomplished through the use of our standard stock trunk pipe with "pre-notch" feature and our No. 160 round branch takeoff as illustrated, effecting a reduction in size of main trunk at each branch. This method produces a neat air-tight installation, low in cost and easy to balance.

Write for our catalog now and keep ALL the profits on your NEXT job!

GRAY METAL PRODUCTS, INC.
P.O. Box 1449 Rochester, N. Y.

ESPA Meeting

(Begins on page 59)

market. We can only grow through profits. Even though fueloil margins are up a cent, it is still a smaller percent of gross sales, on which our capital requirements are based."

By Mr. Van Voast . . . "Today a jobber gives up some of his independence and becomes part of the supplier's marketing organization. Atlantic Refining Co. has nine regions and in each the jobbers elect a representative for frequent head-office conferences. Every marketer is given advance word of the Philadelphia meetings—he writes his representative. This system has accomplished much in better understanding. The jobber must recognize that the supplier cannot change his policies daily, as the marketer can.

"If we take expansion capital from our supplier we are at his mercy on margins. If we're going to have creeping inflation we need creeping margins, too.

"When we blame the loss of commercial consumer accounts on competition it's a completely wrong philosophy . . . I'll never lose sleep over a lost account that I couldn't make money on."

At the convention banquet the guest of honor and principal speaker was Dwight T. Colley, marketing vice-president, Atlantic Refining Co., and vice-president, American Petroleum Institute.

His talk mostly dealt with problems of gasoline marketing, but some of his general observations will interest fueloil distributors. For example, he predicted, "If we do not convince the public that we know how to run the business ourselves, government agencies certainly will take over."

Also, he emphasized the importance of re-establishing the value of our marketing efforts, the need to rebuild the integrity of our brands, the requirement to remold the confidence of dealers and distributors, all with the ultimate aim of regaining the "esteem of our customers so that they can again buy the way they want to buy."

As to retail responsibility for the dealer, Colley regards it as giving value and getting paid for it and striving to beat the standards of the stiffest competition in town, not simply matching the weakest competitor, "just to meet his price."

"It is time," he went on, "for some real business leadership and some real courage, too. Ultimately, whether we win or lose this battle for the survival of free oil marketing will depend upon the extent to which the strong brand suppliers accept the challenge."

In charge of the convention were ESPA President Richmond F. Meyer, Poughkeepsie, N. Y., and Harry B. Hilts, executive secretary, New York. Mrs. Meyer was ladies' golf chairman, and L. V. Bogert, chairman men's golf.

❖

Theodore D. O'Hearn has been promoted to the position of advertising manager for the Appliance Division, Motor Wheel Corp., Lansing, Mich. O'Hearn was formerly assistant advertising manager and replaces *Karl Egeler,* who has resigned.

HERE it is! The First and ONLY

APPROVED STACK HEATER

- **NO TUBES!**
- **NO SOOT BUILD-UP!**
- **NO CLEANING PROBLEM!**

- Important Heat Savings
- Completely Factory Assembled and Wired
- Compact—Only 12 Inches Long
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- G.E. Motor
- M-H Control
- Silent Operation
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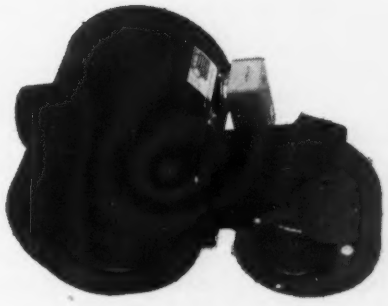

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COMPANY .....

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Index to Articles in 1957 Issues

by months and page numbers

MANAGEMENT *(Oilheating and fueloil)*

ACCENTUATE THE POSITIVE ....*Vernon G. Carrier*..April 69
ACTION GETS RESULTS .....*T. E. Carson*..July 62
ADVERTISING'S BEST BUYS .....*Chester A. Hopkins*..May 75
APPLE-POLISHING THE BOSS .....Sept. 71
ARROW PETROLEUM BUDGET INSURANCE .....Sept. 80
ARTHUR KROCK LOOKS AT TEXAS NATURAL GAS .....June 69
AVOID HIGH CHARGES WITH CONTRACTS.*K. B. Shivell*..Feb. 45
BALTIMORE AND THE PUBLIC .....*Robert D. Myers*..June 63
CO-OP ADVERTISING BUDGETS: $1 MILLION .....Jan. 82
DID OILHEATING COME, TO PASS? .....*Robert Gray*..July 71
EQUIPMENT SELLING IS THE KEY .....*F. C. Haab*..Aug. 45
FILMS FOR TRAINING .....June 70
FRIENDLY COMMENTS FROM PIONEERS .....July 55
HOME COOLING BY OIL MEN .....*William J. Stein*
PART I: LEWIS OIL CO. .....Oct. 51
PART II: ELLIOTT-LEWIS CORP. .....Nov. 51
SERVICE CONTRACTS HUMIDIFIERS ..*Morris Margolis*..Oct. 30
IMPACT AT HOME .....Mar. 49
IT'S A GOOD BUSINESS .....*Tom Carson*..Aug. 56
KEY TO PROFITS .....*F. M. Jordan*
PART I .....Mar. 60
PART II .....Oct. 64
MAKING COOPERATION PAY .....*Kirk B. Shivell*..Oct. 60
MANUFACTURERS, WAKE UP .....*Lionel L. Jacobs*..Dec. 55
NEED FOR ACTION .....*Tom Carson*..June 71
NEW YORK GROUPS LAUNCH TV SHOW .....Sept. 74
NORTHWEST HAS 'EM ALL .....*V. M. Douglas*..May 78
OHI DESIGNS KIT FOR CHIMNEY CAMPAIGN .....July 66
OILHEATING'S BIGGEST PROBLEM ....*Kirk B. Shivell*..Jan. 72
OILHEATING IN LEWISTOWN .....Dec. 58
PROFIT SHARING PROGRAM HELPS SIMON OIL .....Sept. 78
QUALITY BUILDERS USE OIL HEAT ..*William J. Stein*
PART IV: YOUNG SUPPLY CO. .....Jan. 69
PART V: HOME FUEL OIL CO. .....Feb. 48
PART VI: DEBLOIS OIL CO. .....Mar. 54
PART VII: UNIVERSAL UTILITIES .....April 66
PART VIII: BERSON BROS., INC. .....June 58
PART IX: WHETTON'S OIL CO. .....Aug. 64
PART X: WHITE MEADOW PETROLEUM, INC. .....Sept. 66
PART XI: SMEDLEY & MEHL CO. .....Oct. 61
SUMMARY .....Dec. 41
SELL MODERN LIVING .....*Kirk B. Shivell*..April 56
SHOULD REPLACEMENTS BE INSURED?..*Tom Carson*..April 58
STAMPS FOOT THE BILLS .....*V. M. Douglas*..Feb. 58
TALE OF THREE CITIES .....*Fred Burroughs*..Aug. 47
TECHNICIANS IN THE MAKING .....June 96
GREEN GRASS GROWS .....*V. M. Douglas*..Oct. 67
THE MOST HAPPY CUSTOMER .....May 65
THERE JUST ISN'T ANY FREE LUNCH ..*K. P. Springer*..Oct. 57

GENERAL

AL CRAWFORD STEERS DISCUSSION AT FUELOIL PANEL July 65
CAMERA VISIT TO A BURNER FACTORY .....Jan. 74
I-B-R LABORATORY DOING RESEARCH IN HYDRONICS ..Nov. 69
LAB CHECKS TECHNICAL POINTS .....*W. B. Adams*..Jan. 78
NATIONAL WARM AIR ASSOCIATION CONVENTION ....Aug. 84
OHI HOT SPRINGS MEETING .....Oct. 26
OILBURNERS HEAT HARTFORD HOTEL STATLER .....June 95
OIL PROGRESS WEEK .....Oct. 68
OILFIRED COOLING IN BALTIMORE HOME .....Nov. 61
OILHEATING WEEK IN BOSTON .....July 67
POWER SHOW AT NEW YORK COLISEUM .....Jan. 95
PRODUCT TRENDS AT CHICAGO .....*J. W. Schulz*..April 76
ST. LOUIS WITHOUT THE BLUES .....April 72
SERVICEMAN'S LAMENT .....May 74
THE FIRST 35 YEARS .....*Louise Becker*..July 49
UL-OHI QUALITY LABEL PLAN .....July 74
WARM AIR TECHNICAL CONFERENCE .....Aug. 46

FUELOIL DISTRIBUTION

A MARGIN OF INDEPENDENCE .....*W. C. Henwood*..Feb. 62
CAN WE PIN-POINT DEGREE-DAYS ..*Loren W. Crow*..Sept. 75
CARE FOR THEIR EVERY NEED .....July 59
CAROLINA BARNS KEEP BURNING .....*Robert Gray*..Feb. 54
DUAL-PURPOSE TRUCK .....Oct. 59
FILL UP, PULL OUT .....Sept. 72
FUELOIL BLENDING AT HOME .....*Lawrence Lowy*..Nov. 70
GROUP COST ACCOUNTING .....*Tom Carson*..Sept. 79
HERE EQUIPMENT OUTSELLS OIL .....Aug. 50
HYDROGENATION IMPROVES FUELOIL .....June 74
IT'S A 'NICE' FUELOIL BUSINESS ....*V. M. Douglas*..Sept. 68
KEEP 'EM ON CONTRACT .....Dec. 48
LONG RANGE WEATHER FORECASTS .....Jan. 76
MIDWEST RADIO DISPATCHING .....*V. M. Douglas*..Mar. 52
NOJC SHOWS FUELOIL MORE PROFITABLE .....Sept. 63
NOBODY LIKES BILLS .....*Kirk B. Shivell*..Mar. 64
OILHEATING THE LARGEST MARKET .....Dec. 50
ONE LOCK, 34 KEYS .....*V. M. Douglas*..Aug. 62
PREVENTING SLUDGE .....*William H. Carls*..Mar. 70
PUMPS LESS COSTLY THAN GRAVITY .....June 60
SERVICE WITH DISPATCH .....May 68
SHOULD SPECS BE MODIFIED? .....*D. W. Locklin*..Nov. 75
SURVEY OF BURNER-FUELOILS .....Dec. 56
THE CUSTOMER'S ALWAYS RIGHT .....Jan. 65
TORONTO DEALER CHARACTERISTICS .....Sept. 64
TWO-WAY RADIO BOOSTS SALES ....*George Wolf, Jr.*...Aug. 65
UNION CONTRACT WITH INCENTIVES .....June 66
WHAT DESTINY FOR DISTILLATES? ....*C. E. Kramb*..Nov. 66
WHAT'S AHEAD FOR HEATING OIL? .....*B. L. Ray*..June 55

STATISTICAL *(Oilheating and Airconditioning)*

BUREAU OF MINES REPORT—1956 .....Nov. 80
CONSUMERS TALK ABOUT FUELS
PART II: BALTIMORE, MD. .....Oct. 66
PART III: NIAGARA FALLS, N. Y. .....Nov. 68
DEALERS WITH MIXED EMOTIONS .....Jan. 61
FUELOIL 1957..PROBLEMS AND PROFITS *Robert Gray*..Sept. 53
1956 INSTALLATIONS WERE 709,192 .....April 57
MIGHTY MAN IS HE .....June 62
NOT PEAS IN A POD .....*Tom Carson*..May 62
OILHEATING CURVE IS NOTCHED .....Jan. 53
OILHEATING MARKET REPORTS
GREENVILLE COUNTY, S. C. .....Oct. 63
PITTSFIELD, MASS. .....Nov. 82
OUR 'CURRENT' COMPETITOR .....Mar. 44
REPLACEMENTS ARE BIG BUSINESS ....*Robert Gray*..April 52
SERVICE CALLS AND TWO-WAY RADIO ECONOMICS ....Nov. 78
WE'RE IN BUSINESS TO SERVE .....May 57
WHAT'S THE SCORE .....June 83

TECHNICAL *(Oilheating and Airconditioning)*

AUTOMATIC METERING FOR RESIDUALS ..*G. W. Bohn*..Feb. 70
BACK IN THE 1930's .....*J. W. Schulz*..July 52
CAN COOLING BE ADDED? .....*Russell Hedrick*..April 63
FIREBOXES AND COMBUSTION, V .....*J. W. Schulz*..Feb. 51
GET IN HOT WATER .....*W. B. Adams*..July 76
HOT-OIL START-UPS FOR NO. 6 JOBS ..*Jean L. Dupuis*..Nov. 84
HOW TO MODERNIZE JOBS BY APPLYING
ELECTRONICS .....*J. W. Schulz*
PART I .....June 86
PART II .....July 80
HUMIDITY AT HOME .....*J. R. Lewis*..Oct. 54
IMPROVE YOUR OILHEATING .....*J. W. Schulz*..Oct. 47
INSTALLING TANKLESS HEATER .....*H. E. Phipps*..Dec. 52
IS OIL HEAT MORE EFFICIENT?
R. E. Patterson & R. S. Wilcox..Mar. 66
JET PLANES BRING NEW REFACTORY ..*William Clark*..June 72
LIQUID HEATING-COOLING PRIMER .....Aug. 58
MODERN OILHEATING FOR HOSPITALS ...*J. W. Schulz*
PART I .....April 86
PART II .....May 90
NEW FIREBOX IDEAS FOR ROTARY-CUP
OILBURNERS .....*R. W. Winskill*..Oct. 74
NIGHT SET-BACK SAVES OIL ....*Henry T. Kucera*..Aug. 72
NOZZLE SPRAY PATTERNS .....*Stanley Czarnecki*..June 77
OILFIRED HEATING AND MAPLE SYRUP .....Feb. 76
PIPES WILL COOL YOU, TOO .....*V. M. Douglas*..Nov. 54
PROBLEMS OF HANDLING NO. 6 OIL ..*Jean L. Dupuis*..Sept. 86
SERVICING BIG JOBS .....Jan. 86
SOOT-FREE OPERATION OF BURNERS USING NO. 6 OILS April 97
SPARKY INSTRUCTS BURNER OWNERS ..*J. W. Schulz*..Mar. 56
SPARKY ON AIRCONDITIONERS .....*J. W. Schulz*..May 70
SPARKY SERVICES COOLING CONTROLS ..*J. W. Schulz*..Dec. 42
THE HOT-WATER FURNACE .....*J. W. Schulz*..Aug. 53
THE OIL FLAME THAT COOLS .....May 82
WASTE STEAM WORKS AT MELTING SNOW .....Sept. 99
YEAR-'ROUND COMFORT CONTROLS .....*J. W. Schulz*
PART I: WHITE-RODGERS .....Sept. 81
PART II: GENERAL CONTROLS .....Nov. 56
ZONING FOR COMFORT .....*C. W. Nessell*..April 60

Merry Christmas
OIL EQUIPMENT COMPANY
CLOSED FOR XMAS
from everyone at Sundstrand to all our friends in the oil burner industry!

It is said that a good product makes good customers. But as we enjoy this moment of saying, "Merry Christmas!" we know it takes the finest customers, too, to put a product on top and help it stay there.

So here is a sincere note of appreciation from Sundstrand, "first in fuel units," to you . . . *first in customers!* Your co-operative spirit simplifies our distribution problems . . . makes it easier to concentrate on designing and producing better fuel units. Your sincerity in giving *your* customers every possible advantage constantly assures us that all product improvements, big or little, are worth our striving. Your willingness to pass your experience and ideas on to us is priceless.

Your loyal patronage . . . well, it's our living, of course, but living is more than dollars and cents. We appreciate the trust and friendship shown every time you specify, buy, or sell a Sundstrand Fuel Unit.

All these things, as well as many more we can't put into words, are what we feel when we think of you locking that wreath-decorated door and heading home for what we hope will be *the happiest Christmas yet!*

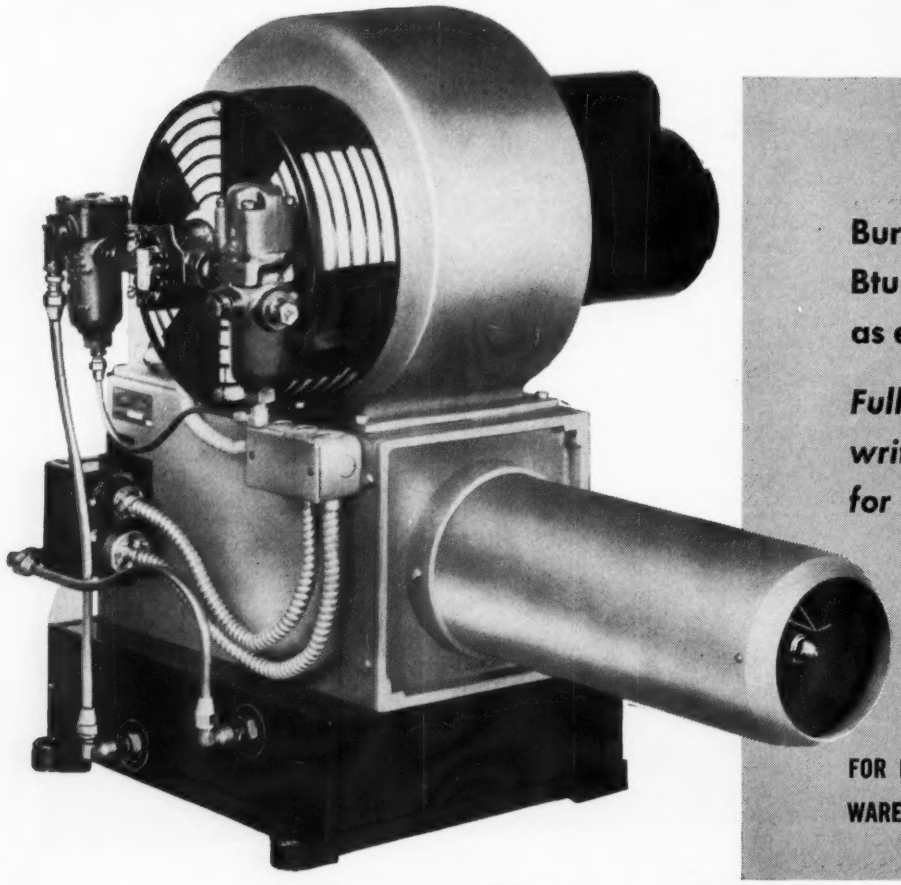
SUNDSTRAND

SUNDSTRAND

HYDRAULIC DIVISION

of Sundstrand Machine Tool Co., 2210 Harrison Ave., Rockford, Ill.—Eastern Sales Office: 89 Summit Ave., Summit, N. J. • Made in Canada by John Inglis, Ltd., 14 Strachan Ave., Toronto — Made in Sweden by Sundstrand Hydraulic AB Stockholm; in France by R. S. Stokvis, et Fils, S. A., 20-22 Rue Des Petits-Hotels.

HOTTEST SELLER FOR THE COMMERCIAL MARKET



SUN-RAY #5 OIL BURNER

Burns LOW COST, higher Btu #5 (and #4) fuel oil as efficiently as #2 oil.

Fully approved by Underwriters' Laboratories, Inc., for #5 oil.

CUTS FUEL BILLS

FOR FACTORIES, SCHOOLS, CHURCHES, WAREHOUSES, APARTMENT BLDGS., etc.

Read What Dealers Say

OPERATORS HEAT, INC.
Baltimore, Md.

"I want to tell you about the field tests we have run on your #4 Oil Burner over the last fifteen months.

"Several things have stood out:

1. The Boilers have stayed much cleaner.
2. The Burners have been considerably quieter than the ones they replaced, whether light or heavy oil burners.
3. We noticed no difference in burning #4 and #5 oil except a little more pressure was used.

"Our service people and our customers are very happy about the operation of your heavy oil equipment."

Hollis Albert, President

NASSAU MUTUAL FUEL CO.
Hempstead, N. Y.

"Until approximately a year ago we installed nothing but rotary type #5 oil burners. Then, because it was impossible to install one in a particular job, we used our first Sun-Ray #5 Oil Burner.

"May I take this opportunity to thank you for putting out such a wonderful piece of equipment. Not only is it more economical and easier to install, but its efficiency, quietness and trouble-free service are beyond reproach.

"You can be sure we have installed Sun-Ray Burners since, and will continue to do so."

E. A. Werner, Jr., Vice-President

OIL BURNER UTILITY CO.
Woodside, N. Y.

"I would like to take this opportunity to compliment your company on your oil burner.

"Never having used any 4 or 5 oil equipment before, due to the service and installation problems of other units, I forfeited those sales in the past, until I tried one of your burners in July of 1956.

"Having found that the installation and service of your unit is comparable to a #2 oil burner, we began a campaign for this type of work. To date this has proved very profitable for us, with a nice increase in sales, oil gallonage and satisfied customers. We are frankly amazed at how little service these burners require and how well they work."

Max Hachmann

Get the facts. Get the Sun-Ray sales story.

SUN-RAY BURNER MANUFACTURING CORPORATION

139-22 Queens Boulevard, Jamaica 35, New York

NEW MOTOROLA T-POWER 2-WAY RADIO

Transistorized Power Supply
for both receiver and
25-watt transmitter

Long Life Transistors Replace the Vibrator . . .
Reduce Maintenance and "Down-Time"

Already famous for the lowest maintenance and operating costs in the 2-way mobile radio field, Motorola mobile radio is an even better investment now—with the T-POWER unit. The vibrator is gone! . . . replaced by rugged long-life transistors. Gone, too, is the problem of frequent vibrator replacement. Here is a mobile radio with an all-electronic power supply.

New Mounting Flexibility with Plug-In Control Head
. . . Same Basic Unit can be Used for Front or Trunk Mounting

With the T-POWER radio, you are no longer restricted to one type of mounting. Install the complete radio, with drawer unit and plug-in control head, for under-dash mounting. For rear mounting the same basic drawer unit can be installed in the trunk and connected by cable to a dash-mounted control head. And—the same basic drawer unit can be interchanged with the equivalent Motorola Twin-V trunk mount radio models operated from a 12-volt negative ground source.

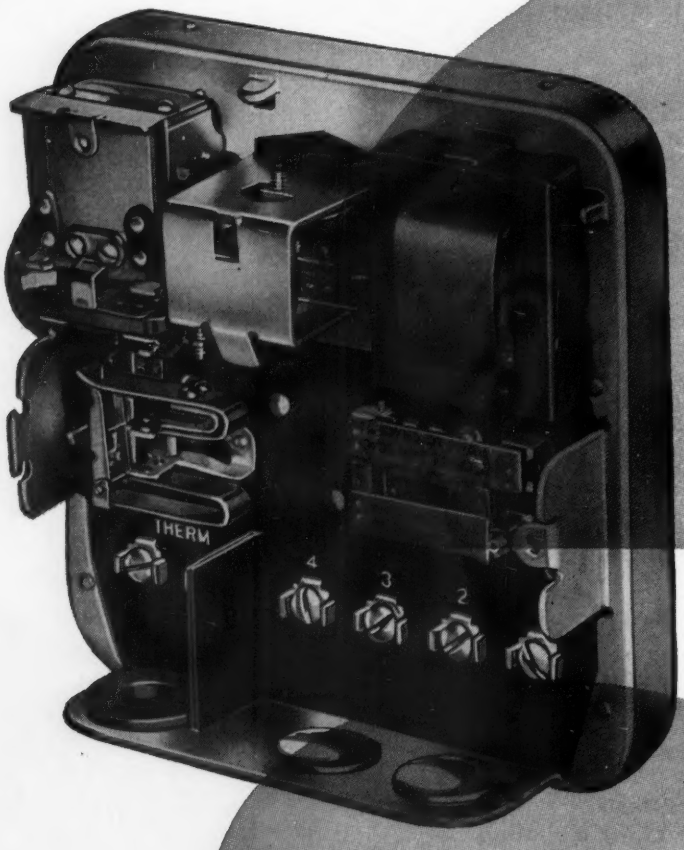
T-POWER radio is another example of Motorola's continuing leadership in the practical application of transistors in mobile radio. Other tested and proved transistorized products include the Dynamic Microphone and Power Voice Speaker.

Get all the facts.—Write now for literature with complete information.

MOTOROLA Communications & Electronics, Inc. · 4501 Augusta Blvd., Chicago 51, Illinois · A Subsidiary of Motorola Inc.

what oil burner control system do you prefer?

The Perfex burner primary line by General Controls is America's only complete line. Choose from the only manufacturer to make all three—stack-mounted, two-piece or PerfXray.



MATCH THESE FEATURES AGAINST ORDINARY PRIMARIES

1) Constant, intermittent ignition; recycling, non-recycling and line voltage models available
2) Carbon friction block for reliability, permanent adjustment
3) No leveling required
4) Hum-free relay, insulated circuits
5) Simple wiring plan, protected while wiring
6) Safety timer compensated for ambient temperature
7) Fewer moving parts, plated against corrosion
8) Fully guaranteed, Underwriters' Laboratory approved

G C **make your next installation...**

JUST OUT!

All-new '58

DODGE *PowerGiants*

4-WAY LEADERS OF THE LOW-PRICED 3

Now—for the first time in truck history—one make leads the low-priced three *all four ways!* And that make is DODGE—all new for 1958!

From the future comes Dodge styling — handsome, sweeping, prestige-winning lines, richly trimmed in sparkling chrome.

From 40 years of truck experience comes remarkable engineering advances . . . outstanding performance, load capacities and economy.

See these great new trucks soon. And be *sure* to get your Dodge dealer's special 40th-anniversary deal before you buy any other make!

1 **FIRST IN PAYLOAD!** Advanced construction gives extra strength *without* extra weight, lets you haul up to ⅓ more, cut down on trips.

2 **FIRST IN POWER!** New 204- to 234-hp. *Power Giant* V-8's! Extra power cuts trip time, lets you pass more safely, reduces engine strain.

3 **FIRST IN ECONOMY!** Most advanced of all V-8 truck engines. Exclusive Power-Dome combustion increases gas mileage, cuts upkeep costs.

4 **FIRST IN STYLING!** All-new design! Deluxe chrome grille and trim . . . modern dual headlights . . . future-inspired lines . . . smart new colors.

TURN PAGE FOR FULL-LINE STORY →

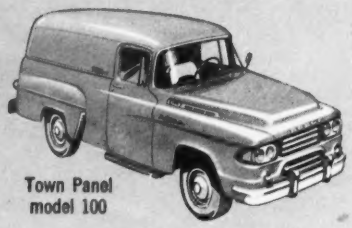
There's a

'58 DODGE PowerGiant

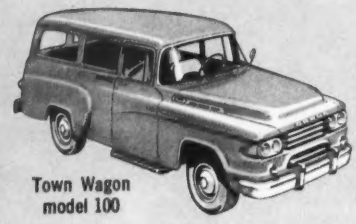
for every job . . . for every business . . . for every pocketbook

Low-tonnage models

Pick-up
model 100



Town Panel
model 100



Town Wagon
model 100

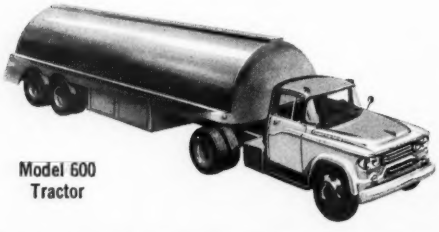
Forward-Control
model P300

Medium-tonnage models

Model 400
Van Body

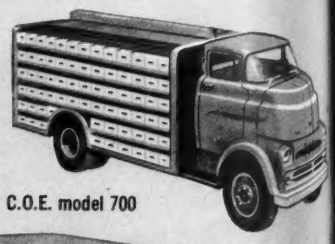
Model 500—Stake

Four-Wheel-Drive
W500
Chassis

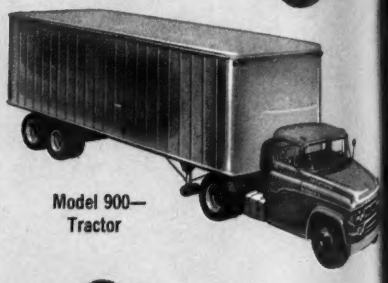


Model 600
Tractor

Heavy-duty models



C.O.E. model 700



Model 900—
Tractor

Model T800—
Mixer Body

Model T900—
Dump Body

CONDENSED SPECIFICATIONS

CONVENTIONAL MODELS
G.V.W. Range
4,250 lbs. to 9,000 lbs.
Engines
120-hp. 6-cylinder
204-hp. V-8

4-WHEEL-DRIVE MODELS
G.V.W. Range
5,100 lbs. to 10,000 lbs.
Engines
113- 120- 125-hp. 6-cyl.
204-hp. V-8
204-hp. V-8 (Heavy-Duty)

FORWARD-CONTROL MODELS
G.V.W. Range
6,000 lbs. to 9,000 lbs.
Engines
120-hp. 6-cylinder
204-hp. V-8

CONVENTIONAL MODELS
G.V.W. Range—11,000 lbs. to 22,000 lbs.
Engines—125- 130- 141-hp. 6-cyl.
204- (H.D.) 207-hp. V-8's

C.O.E. MODELS
G.V.W. Range—15,000 lbs. to 22,000 lbs.
Engines—204- (H.D.) 207- 218-hp. V-8's

4-WHEEL-DRIVE MODELS
G.V.W. Range—15,000 lbs. to 20,000 lbs.
Engines—130-hp. 6-cylinder
204- (H.D.) 207-hp. V-8's

SCHOOL BUS MODELS
G.V.W. Range—10,500 lbs. to 22,000 lbs.
Engines—125- 130- 141-hp. 6-cyls.
204- (H.D.) 207-hp. V-8's

FORWARD-CONTROL MODELS
G.V.W. Range—7,500 lbs. to 15,000 lbs.
Engines—120-hp. 6-cylinder
204-hp. V-8

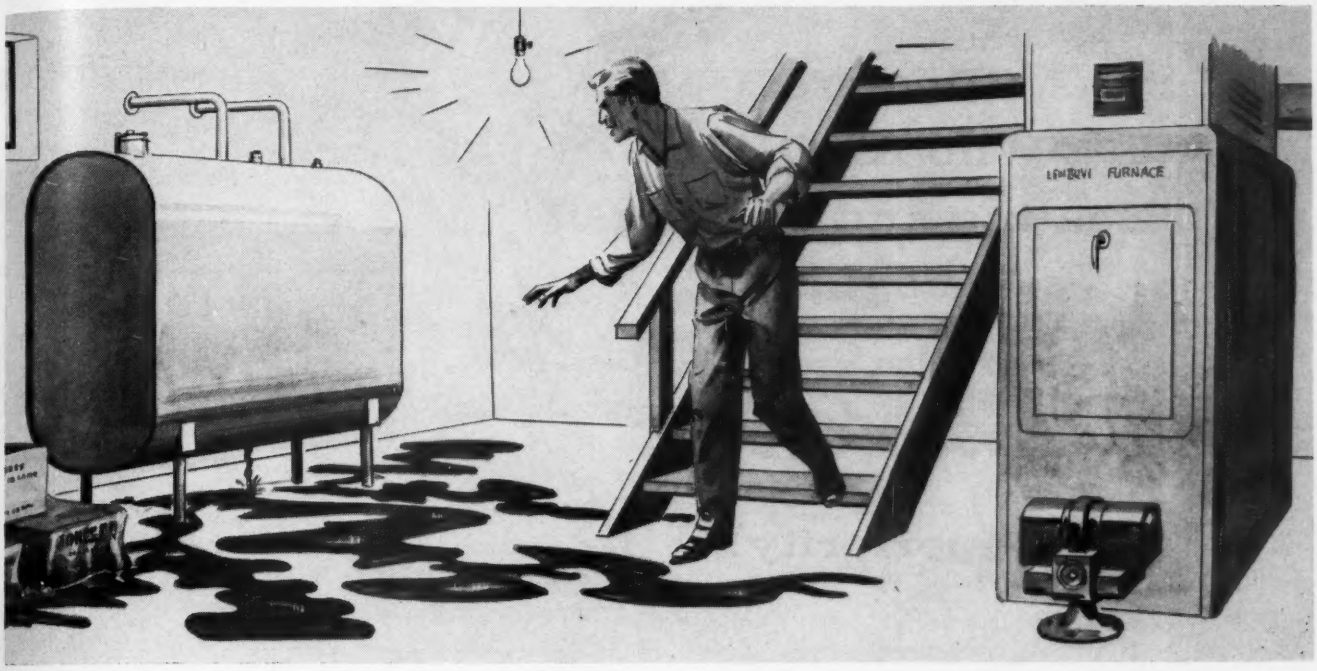
CONVENTIONAL MODELS
G.V.W. Range
18,500 lbs. to 30,000 lbs.
Engines
218- 224- 234-hp. V-8's

C.O.E. MODELS
G.V.W. Range
18,500 lbs. to 25,000 lbs.
Engines
218-hp. V-8

TANDEM MODELS
G.V.W. Range
26,000 lbs. to 46,000 lbs.
Engines
218- 224- 234-hp. V-8's

SCHOOL BUS MODELS
G.V.W. Range
17,500 to 23,000 lbs.
Engines
218-hp. V-8

SCENES LIKE THIS ARE NO GOOD FOR BUSINESS!



NEW MAGNA-BAR STOPS UNNECESSARY BREAKDOWNS, CUTS COSTLY SERVICE CALLS!

Easily installed in customers' oil tanks, this bar of special alloy metal reduces the formation of sludge by 100 to 1 or more . . . prevents frequent clogging of parts . . . completely neutralizes all corrosive acid as it forms . . . makes tanks last *10 times longer.* *You* save precious man-hours . . . your contracts become more profitable. Even more important — your customers stay satisfied . . . and they recommend you to friends.

Oil is the safest and most economical way to heat—but when condensation in the storage tank mixes with elements in all fuel oils, a slow, damaging organic-chemical reaction takes place. Parts of the oil "break down" and form insoluble varnish and sludge that clog the working parts of the system. Condensation also combines with acid gases from the air, forming a damaging amount of corrosive acid on the bottom of the tank. This acid silently eats through the tank, eventually destroying it completely. These are the scientific problems that have plagued the industry for some time.

But now, after years of experimenting—here is the proved scientific answer. MAGNA-BAR, a special alkaline metal alloy rod stops the chemical action . . . cuts down the formation of sludge by a remarkable 100 to 1! And at the same time, it stops tank corrosion by completely neutralizing and destroying all of the corrosive acids as they are formed. Exhaustive tests in actual home use—as well as rugged lab tests at the York Research Laboratories in Stamford, Conn.—established this conclusively.

What does this mean to you? MAGNA-BAR, installed in your customers' oil tanks, means fewer service calls. Your customers remain satisfied with your service—ready to recommend you to friends . . . and you save precious man-hours, too . . . your contracts become much more profitable.

MAGNA-BAR is easy to install. It is not a liquid or powder additive that needs frequent replenishing. It is a special alkaline alloy bar that is attached by a long wire to the filler cap or inspection plug. It rests on the bottom of the tank (where the damaging acid forms).

Extensive newspaper and magazine advertising is being used to introduce MAGNA-BAR to the public. Its retail price is $4.95 for the 275 gal. cellar tank and $5.95 for the outdoor or underground tank up to 550 gal.—but a good customer relations move might be to give it free of charge. You'll be keeping your customers happy and you'll save money and time, too.

LIBERAL DISCOUNTS TO THE TRADE

Magna-Bar®

TECHNICAL EXPLANATION

Each of the several metals alloyed in the MAGNA-BAR has a purpose. One of the metals—magnesium—being highly alkaline, destroys catalysts, thought to be peroxides and hydroperoxides. This blocks a chain reaction that generally results in polymerization and co-polymerization of oil molecules. These polymers are the resinous compounds that result in the sludge, resin and varnish that clog the oil lines, the filter screen and the burner nozzle itself. By stopping the chain reaction, there is a drastic reduction of resin and sludge—in the order of 100 to 1. This results in almost complete elimination of service trouble in the burner and combustion chamber—including fouling of the starting electrodes. It destroys the corrosive acids that normally eat out the bottom of the steel tank—by direct neutralization and by the electrolytic action through the condensate. The potential as an anode is about 1.7 volts above the iron in the tank. Thus the MAGNA-BAR prevents the tank from rusting by discharging hydrogen ions electrically. The other metals present in the MAGNA-BAR are to help maintain its chemical activity. There is enough alkaline reserve to last 3 years in the average tank.

JOHNS RESEARCH LABS. Dept. F-12
MIDDLESEX, N. J.

Please rush .....MAGNA-BARS.

☐ Please send full information on how MAGNA-BAR will help my customers.

Please PRINT your:

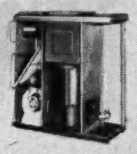
Name .....

Address .....

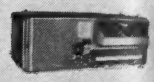
City .....Zone ...State .....

Liberal discounts to the trade

Dealers Who KNOW Heating and Cooling Recognize Luxaire® Superiority!

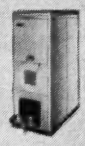


Basement Type Winter Air Conditioner. Oil or Gas Fired.



Horizontal Furnace. 4 Oil Models. 4 Gas Models.

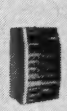
Utility or Counterflow Winter Air Conditioner. Gas or Oil Fired.



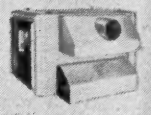
Gravity Furnace. Gas or Oil Fired.

Gas Conversion Burner.

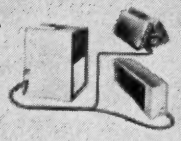
Add-On Water Cooled 3 or 5 Ton Summer Air Conditioner.



Gas Fired Unit Heater. 5 Sizes.



Gas Duct Furnace. 4 Sizes.



Add-On Air Cooled 2, 3 or 5 H.P. Summer Air Conditioner. (Compressor-Condenser Assembly available with Duct or Plenum Type Cooling Coil.)

Year 'Round Air Conditioner. 2, 3 or 5 H.P. Air or Water Cooled. Gas or Oil Fired.

Winter Air Conditioner, with matching Enameled Return Air Cabinet installed (An Accessory.)

Oil Winter Air Conditioner with front panels removed to show factory-installed Oil Burner.

Luxaire builds EXCELLENCE into Every Unit And the Complete Line is Priced to Make Every Installation Profitable

If you select a furnace or air conditioner solely on the merits of rugged construction, efficient operation and attractive styling, you will choose Luxaire. Luxaire Heating and Air Conditioning Units are unsurpassed for sturdier construction, have an enviable record for trouble-free performance and provide unmatched eye appeal.

But Luxaire gives you an additional competitive advantage. Because Luxaire products feature sound construction and uncomplicated design — and because Luxaire manufacturing plants are completely modern in both tooling and methods — you can buy Luxaire Units for less than you pay for most other makes of comparable quality.

You enjoy a real profit advantage with Luxaire!

If you want to sell excellence, but find it necessary to compete with price, you will find that the most profitable solution is to install Luxaire.

See your Luxaire jobber, today!

The New Luxaire Furnaces Feature Heavy Construction

Completely assembled and wired at the factory, the new Luxaire Gas Fired and Oil Fired Winter Air Conditioners have 16-gauge steel heating elements (14-gauge in the larger oil models). The 21-gauge cabinets combine unusual compactness with exceptional good looks. *This is superiority that you can see and feel!*

Winter Air Conditioner with V-type Cooling Coil. Blower capacity can be added as needed.

Gas Counterflow Unit with front panels removed to show complete factory assembly and wiring.

Winter Air Conditioners and Counterflow Units — Gas Fired: 75,000, 100,000, 125,000 and 150,000 Btu Input — Oil Fired: 78,400 and 112,000 Btu Output.

THE Luxaire® C. A. OLSEN MANUFACTURING COMPANY • • ELYRIA, OHIO

HEATING & AIR CONDITIONING UNITS

What's new in this familiar picture?

You're right! It's the "Certified Comfort" emblem —symbolizing the *new* way Shell Fuel Oil Dealers are building bigger sales volume.

The Shell "Certified Comfort" Plan basically provides these three outstanding benefits—

- **top-quality fuel oil**
- **expert heating oil service**
- **greater customer satisfaction**

With "Certified Comfort" the Shell Fuel Oil Dealer pledges to provide top-quality heating oil and at the same time assures his customers of premium service, such as degree-day system deliveries, anti-corrosion treatments of fuel tanks and metered delivery receipts.

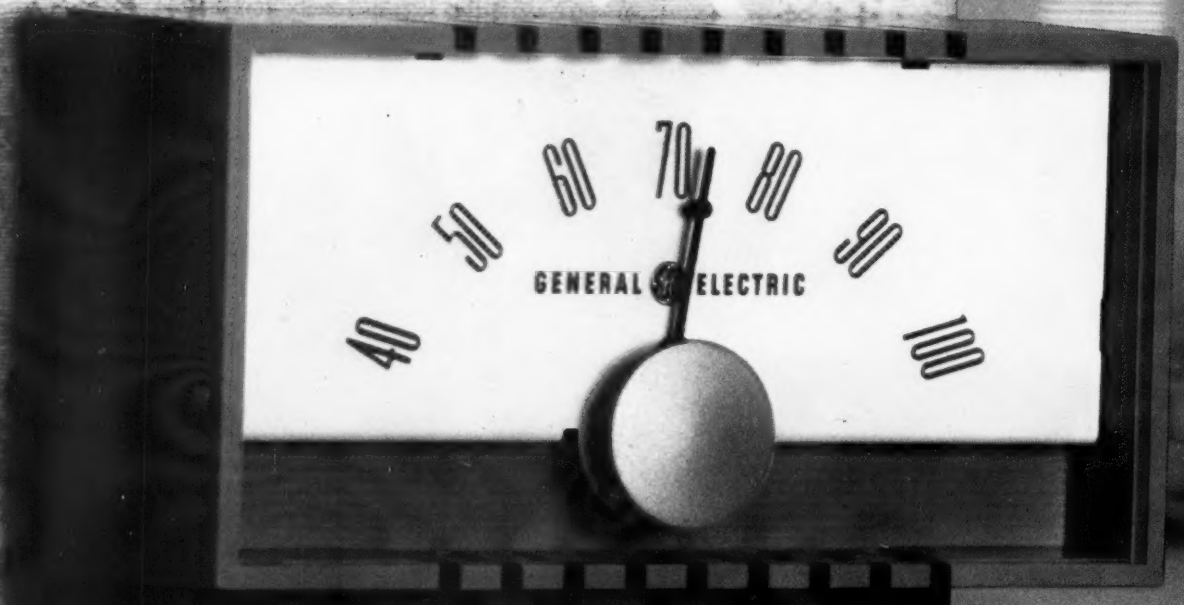
A full-scale advertising program has been prepared for Shell Fuel Oil Dealers to help them familiarize home owners with the benefits of "Certified Comfort." It makes use of television, radio, outdoor, newspapers and direct mail. The complete program is available to all Distributors of Shell Heating Oils upon request.

Contact your local Shell representative today for complete information—and remember, the "Certified Comfort" Plan is a Profit Plan for Shell Fuel Oil Dealers.

SHELL OIL COMPANY

SHELL

Decorator-styled for the modern h



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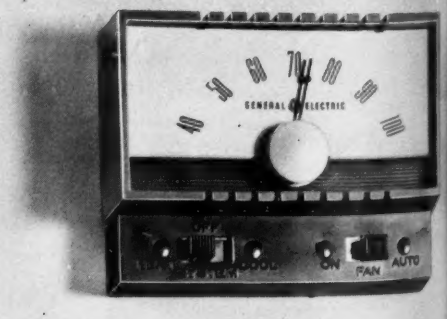


COMPANION AIR CONDITIONING attachment to control the cooling and fan units in the home air conditioning system is available in a small base attachment that fits under the new General Electric straight-line thermostat.

NEW

General Electric Straight-Line Thermostat

Designed to blend with the clean, angular shapes in modern homes and furnishings, the new General Electric room thermostat presents a simple beauty and a proved, dependable mechanism that needs no leveling to give your heating system the finest in comfort control.

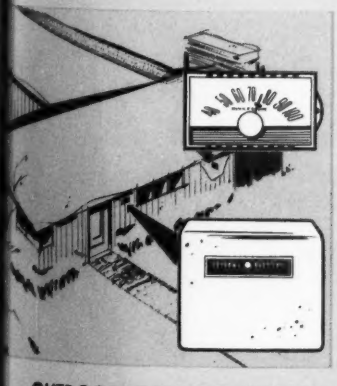
EASY-TO-READ DIAL. Eye-styled numbers on the white face of the new G-E straight-line thermostat are easily visible from across the room, a step-saving feature that your customers will appreciate.

FINGER-TIP TEMPERATURE CONTROL. Centered on the right side of the attractive case is the smart temperature adjusting dial with graduations from 55 to 85 degrees. With the variable heat anticipator which accurately predicts the point at which desired temperature will be reached, the system coasts to the pre-selected temperature with no 'over-shoot.'

PAINT TO MATCH ROOM COLORS. The eye-appealing polystyrene case can easily be painted to blend with the decor of the room, making the General Electric straight-line thermostat a beautiful as well as a useful addition to any home.

The new straight-line thermostat is available from your nearby General Electric Apparatus Sales Office or from your local distributor of General Electric Heating Controls.

EXTRAS



OUTDOOR CONTROL SYSTEM signals the G-E indoor thermostat to weather changes and automatically adjusts system for greater comfort.

FOR MORE INFORMATION on how easy it is to sell and install the new General Electric Straight-Line Thermostat, mail this coupon to the General Electric Co., Section 740-131, Schenectady 5, N. Y.

NAME_____

COMPANY_____ TITLE_____

ADDRESS_____

CITY_____ STATE_____

Progress Is Our Most Important Product

GENERAL ELECTRIC

Mr. Oilburner Serviceman

For some time now we, as nozzle manufacturers, have been convinced that cleaning nozzles which have been in service past the warranty period is a losing proposition. Even with all of our facilities for doing this job, we find it less expensive to supply new ones.

here's why . . .

Baked on carbon and varnish cannot be properly removed except by lengthy cleaning and inspection process. The time required to properly clean a nozzle in terms of labor cost greatly exceeds the cost of a new nozzle. This is why nozzle manufacturers cannot maintain a nozzle rework department.

however . . .

A new nozzle (in service three weeks or less) can often be successfully cleaned by blowing them out with filtered compressed air. In this case lint or dirt particles may have lodged in the distributor slots causing lopsided fires, streaky sprays or even complete plugging. If so, carefully remove the foreign matter and try it again. If this doesn't correct the fire, return it to the manufacturer for replacement under warranty. Remember, nozzles with baked on varnish or carbon cannot be cleaned economically.

ACTUAL CALLS ON DEALERS HAVE SHOWN US . . .

Basic call cost for a serviceman is $4.18 per hour.
Basic call cost plus $1.00 for a new nozzle is $5.18.
Basic call cost plus 15 minutes to clean and replace a nozzle is $5.22.
Basic call cost plus 15 minutes to clean and replace a nozzle plus one call back in every ten calls due to improper cleaning is $5.65.
In other words, you lose 47c every time YOU TRY TO CLEAN a nozzle.

From your customer's viewpoint, a new part is always more desirable than an old one, so by replacing the nozzle you not only build customer good will, but you save your company money in the bargain!

America's Leading Nozzle Manufacturers

WILLIAM STEINEN MFG. CO.
43 Bruen Street
Newark 5, New Jersey

BOSTON MACHINE WORKS
11 Willow Street
Lynn, Massachusetts

DELAVAN MANUFACTURING COMPANY
West Des Moines, Iowa

EDDINGTON METAL SPECIALTY COMPANY
Eddington, Pennsylvania

HAGO PRODUCTS
1120 Globe Avenue
Mountainside, New Jersey

MONARCH MANUFACTURING WORKS, INC.
2501 E. Ontario Street
Philadelphia 34, Pennsylvania

1953

1954

1955

1956

1957

1958

and a company's faith in the future of the oil heating industry

Nineteen hundred and fifty seven was indeed a momentous year for members of the oil heating industry. It marked the introduction of a revolutionary new kind of heating oil that assures consumers a naturally trouble-free, superlatively clean-burning fuel. Behind the scenes, such progress represented an exhaustive Gulf research program and capital investments running into millions of dollars for construction of refining equipment designed specifically to upgrade the quality of Gulf Solar Heat. *It was based on a boundless faith in the strength of the American economy, and something more . . . Gulf's faith in the future of the oil heating industry!*

Never in the recent history of oil heating has a product caused so much excitement. The tremendous investment in research and in refining facilities for the new hydrogen-purified Gulf Solar Heat has given to heating oil distillate, for the first time, a seat on the front porch of the refining industry along with gasoline and lubricating oil. Most important, by substantiating in performance the elaborate publicity given its introduction to the trade, the new product has contributed immeasurably toward convincing the general public that "oil heat is best."

We at Gulf look forward to the coming year with renewed optimism that through continuing research by refiners in close cooperation with oil heating equipment manufacturers will come many other momentous contributions to the advancement of the oil heating industry.

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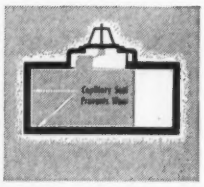

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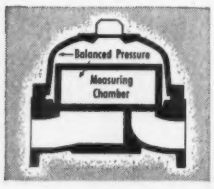

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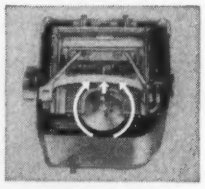

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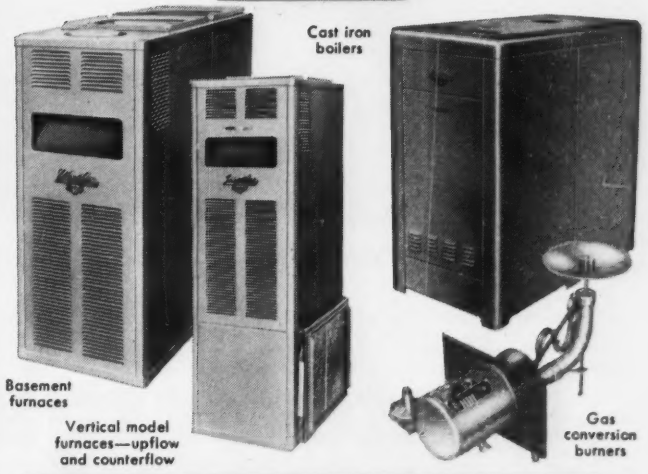

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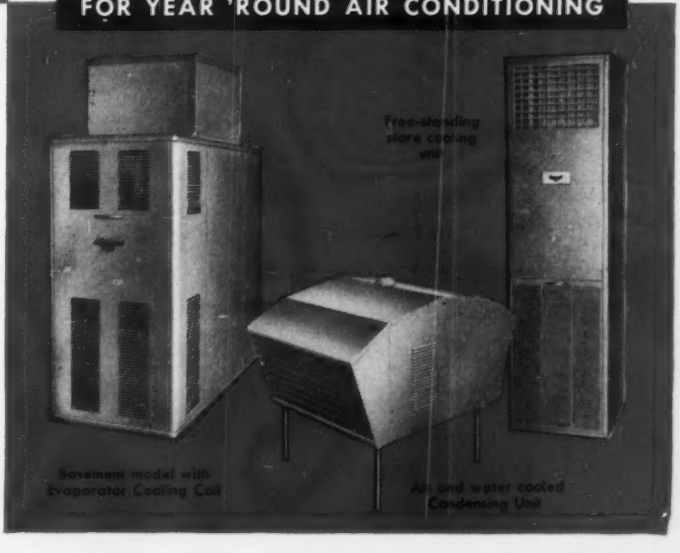

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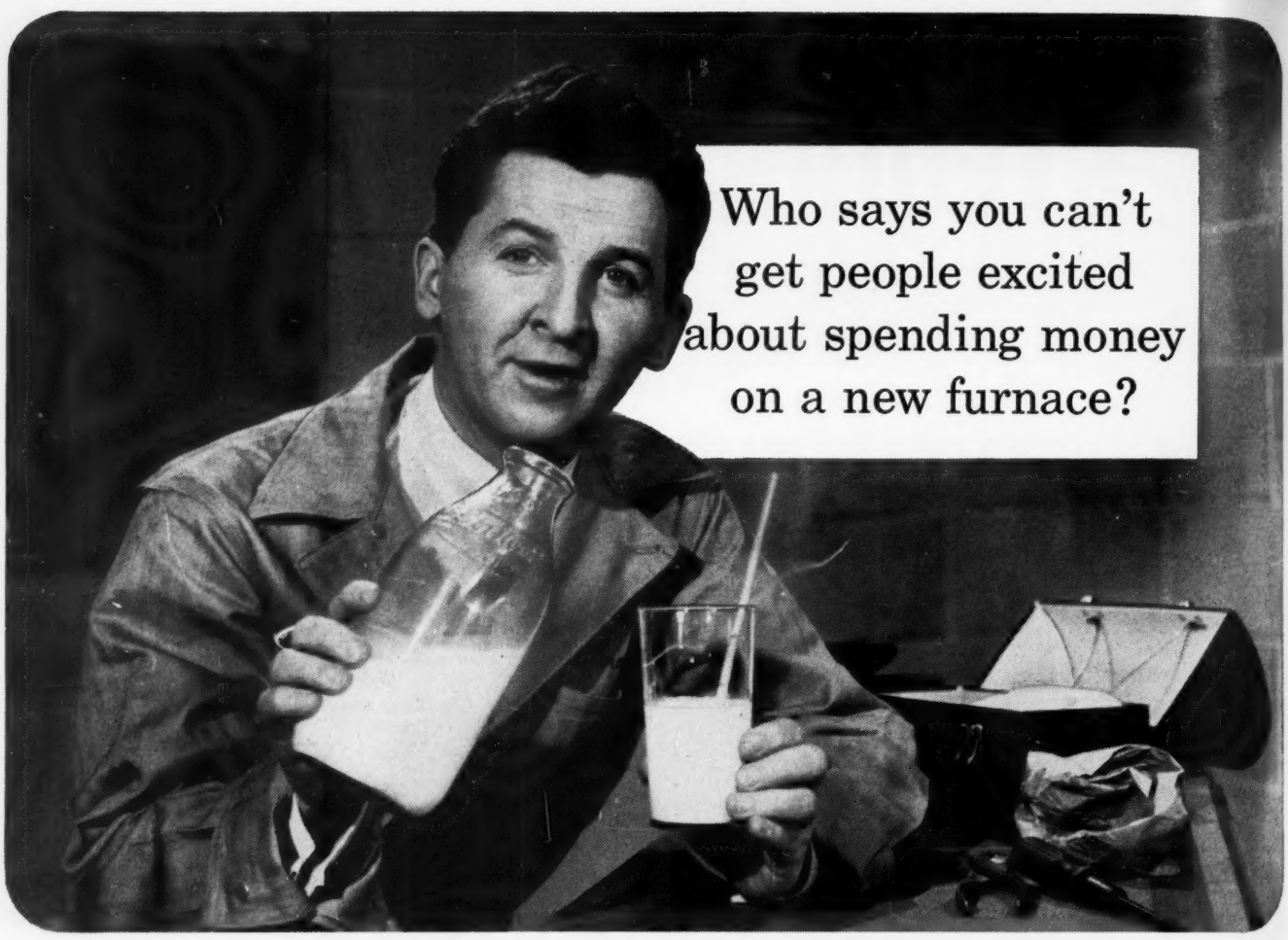

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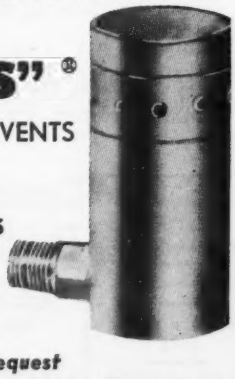

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—A—

American Petroleum Institute ... 27
Applied Mechanics Company .. 101
Auto-Flo Corporation 94
Automatic Humidifier Company . 99

—B—

Bacharach Industrial Instrument Company 103
Barber-Colman Company 68, 69
Bell & Gossett Company 22, 23
Bethlehem Foundry & Machine Company 90
Boston Machine Works Company 99
Brodie Company, Ralph N. *Inside Front Cover*
Buckeye Iron & Brass Works, Inc. 93

—C—

Chevrolet Motor Division 25
Cleveland Fuel Equipment Co. . 73
Cooperative Advertising 64
Crescent Parts & Equipment Co., Inc. **112**
Cromwell Printery, Inc. 111

—D—

Davis Engineering Corp. 67
Degree Day Systems 98
Delavan Manufacturing Company 21
Delbridge Calculating Systems, Inc. 34
Dewey Gas Furnace Company .. 73
Dodge Division 35, 36

—E—

Econo Products Div. Viking Instrument Co. 96
Ever-Tite Coupling Company .. 30

—F—

Fluid Systems, Inc. 71

—G—

General Controls Company ...32, 33
General Electric Company ...62, 63
General Filters Corporation 98
Gorton Heating Corporation ... 101
Gray Metal Products, Inc. 108
Guardian Products Corp. 24
Gulf Oil Corporation 79

—H—

Hago Products 81
Harvey, Inc., Sid 89
Hayward Oil Burner Corp. ... 107
Heat-Timer Corp. 73
Henry Furnace Company 17
Hidy Brown Recorder Company . 38
Homeward Products, Inc. 37
Hydrovalve Company 99
Hy-Test 303 Corp. 88

—I—

Ingersoll Steel Division 86
Insulating Refractories Company 104

—J—

Johns Manufacturing Company . 39
Johns-Manville Corp. 95

—K—

Kam Water Heater Mfg. Co. .. 104
Kenite Laboratory 111
King Engineering Corp. 103
Klemm Automotive Products Co. 102
Kolb Refractories Company ... 107
Kraissl Company 72

—M—

Maid-O-Mist, Inc. 26
Master-Craft Supply Co., Inc. .. 20
McDonnell & Miller, Inc. *Back Cover*
Mercoid Corp., The 107
Minneapolis-Honeywell Regulator Co. ..*Inside Back Cover*
Monarch Mfg. Works, Inc. 15
Monogram Products Company .. 112
Morysville Body Works 103
Motorola, Inc. 31
Mt. Hawley Mfg. Co. 102
Mutual Manufacturing Co. 107

—N—

National-U. S. Radiator Corp. .. 9
Neptune Meter Company 80
New Yorker Steel Boiler Co. .. 112
Norman Chemical Company ... 106

—O—

OPW Corporation 11, 14
Olsen Mfg. Co., C. A. 40
Oster Laboratories 111

—P—

Parke-Hill Chemical Corp. 103
Preferred Utilities Mfg. Corp. .. 78

—Q—

Quiet Automatic Burner Co. .. 101

—R—

Robertshaw-Fulton Controls Co. . 1

—S—

Safety Stack Heaters, Inc. 109
Scully Signal Company 28, 29
Shell Oil Company 61
Silent Flame Mfg. Co., Inc. ... 106
Sinclair Refining Company 82
Skuttle Manufacturing Co. ...92, 93
Socony Mobil Oil Co., Inc. 111
Steinen Mfg. Co., Wm. 99
Stewart-Warner Corp. 83
Sun Ray Burner Mfg. Corp. .. 4
Sundstrand Machine Tool Co. . 3

—T—

Taco Heaters, Inc. 91
Tankit Company 112
Thermolok Mfg. Co., Inc. 107
Thrush & Company, H. A. ... 97
Torrington Mfg. Co., The 13

—W—

Walbro Corporation 105
Walker Mfg. & Sales Corp. 100
Washington National Insurance Co. 104
Waterman-Waterbury Co., The 84, 85
Weatherall Engineers, Inc. 77
Webster Electric Company 19
Webster Engineering Co., The . 74
Weil-McLain Company 87
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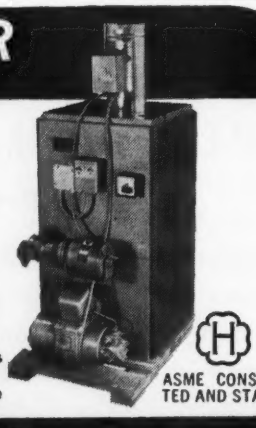

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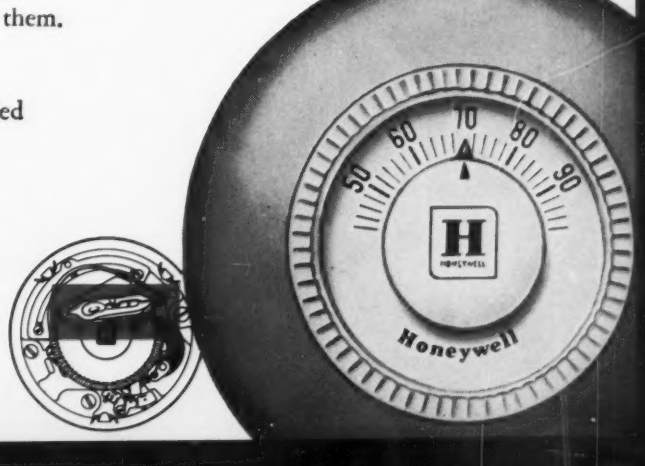

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